Actiontec®

USB/Ethernet

DSL Modem

Model #: GT701

Firmware Version: 3.0.1.0.6.0-GT701

User Manual

Ver 1.0

Solutions for the Digital Life™

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Introduction 1

Thank you for purchasing the Actiontec USB/Ethernet DSL Modem. The Modem is the simplest way to connect computers to a high-speed broadband connection. This easy-to-use product is perfect for the home office or small business. If you want to take your computing to the next level, the Actiontec USB/Ethernet DSL Modem is sure to be one of the keys to your success.

Package Contents

- Actiontec USB/Ethernet DSL Modem
- Power cord
- Phone filters
- DSL cable
- Yellow (Ethernet) cable
- Blue (USB) cable
- Installation CD (includes user manual)
- Quick Start guide
- Start Here guide
- Technical Support card

Minimum System Requirements

- Internet DSL service
- Compatible laptop, desktop, or Macintosh computer with an available Ethernet or USB (USB compatible with PCs only)
- Microsoft Windows 98, 98 Second Edition (SE), Millennium Edition (Me), NT 4.0, 2000, XP; Mac OS 7.1 and above

☞ ***Note***: USB LAN port is not supported with Microsoft Windows 95 and NT 4.0, or any Mac OS.

- Internet Explorer 4.0 or higher (5.x recommended) or Netscape Navigator 4.0 or higher (4.7 recommended)
- TCP/IP network protocol installed

Features

- Plug-and-Play installation support for systems with Windows operating systems (98SE, Me, 2000, and XP)
- ADSL WAN port (RJ-11)
- Compliant with full-rate ANSI T1.413 Issue 2, ITU G.992.1 (G.dmt) and G.992.2 (G.lite) standard
- Auto-handshake for different ADSL flavors
- USB 1.1 device specification compliance
- 12 Mbps USB data rate (full speed)
- Multiprotocol encapsulation over ATM, PPP over ATM, PPP over Ethernet
- Precise ATM traffic shaping
- IP packet routing and transparent bridge
- Routing protocol supports RIP-1, RIP-2, static routing

- Built-in NAT, DHCP server
- DNS relay support
- PAP/CHAP authentication, administrative passwords through Telnet and HTTP
- Compliant with IEEE 802.3 Ethernet standard
- 10/100 Base-T Ethernet port
- Flow control support for Fast Ethernet
- Web-based configuration setup
- Default configuration backup restore
- Firmware upgradeable
- Web download support

Getting to Know the Modem

This section contains a quick description of the Modem's lights, ports, etc. The Modem contains several indicator lights (LEDs) on its front panel and a series of ports on its rear panel.

Front Panel

The front panel of the Modem features five lights: Power, DSL, Internet, Ethernet, and USB.

Power Light

The Power light displays the Modem's current status. If the Power light glows steadily green, the Modem is receiving power and fully operational. When the Power light flashes rapidly, the Modem is initializing. If the Power light is not illuminated when the Power cord is plugged in and the Power switch is turned on, the Modem has suffered a critical error and technical support should be contacted.

DSL Light

The DSL light illuminates when the Modem is connected to a DSL line. When it flashes, the Modem is training for your DSL service.

Internet Light

When the Internet light glows steadily, the Modem is connected to the DSL provider.

Ethernet Light

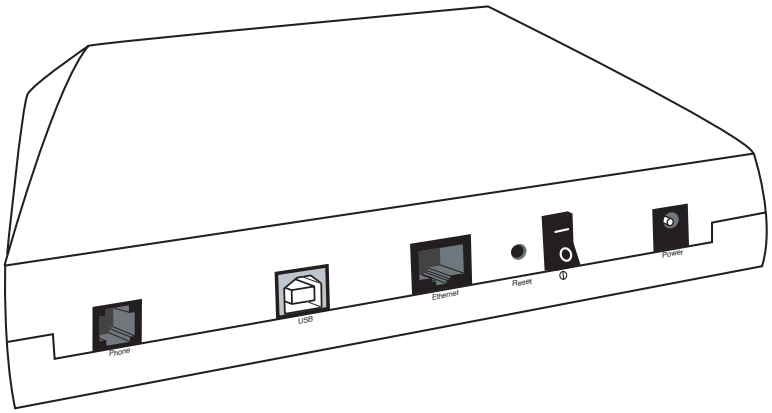
The Ethernet light illuminates when the Modem is connected via its Ethernet port.

USB Light

The USB light illuminates when the Modem is connected via its USB port.

Rear Panel

The rear panel of the Modem contains four ports (Phone, USB, Ethernet, and Power), as well as Reset and Power switches.



Phone Port

The Phone port is used to connect the Modem to a DSL (Digital Subscriber Line) connection.

USB Port

The USB port is used to connect a computer to the Modem via USB cable.

☞ ***Note***: It is not recommended to perform a recovery or update for the Modem from a computer connected via USB.

Ethernet Port

The Ethernet port is used to connect computers to the Modem via Ethernet cable. The Ethernet port is a 10/100 Mbps auto-sensing port, and either a straight-through or crossover Ethernet cable can be used when connecting to the port.

Power Port

The Power port is used to connect the Power cord to the Modem.

Warning: Do not unplug the Power cord from the Modem during the reset process. Doing so may result in permanent damage to the Modem.

Reset Switch

Depressing the Reset switch for one or two seconds will power cycle the Modem (similar to unplugging and then plugging in the Modem's Power cord). To restore the Modem's factory default settings, depress and hold the Reset switch for approximately 15 seconds. The reset process will start about 10 seconds after releasing the switch.

Power Switch

The Power switch is used to power the Modem on and off.

Warning: Do not click the Power switch to its "off" postion during the reset process. Doing so may result in permanent damage to the Modem.

Setting Up the Modem

2

The instructions that follow parallel the steps contained in the Actiontec Installation Buddy™, which provides a visual guide to setting up the Modem. It is recommended the user run the Installation Buddy first, before attempting any other procedures.

To set up the Modem, it must be connected to a computer, and then configured. After connecting this first computer, other computers can be added to the network via USB or Ethernet (see "Setting Up a Network" on page 63).

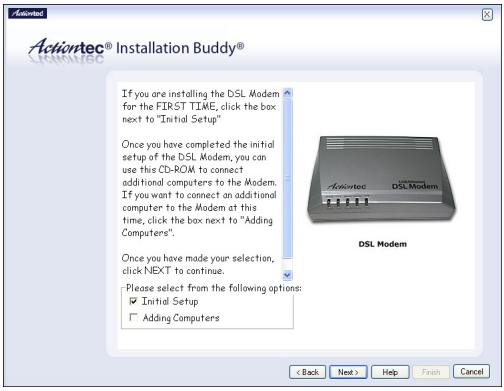
Connecting a Computer to the Modem

Connecting a computer to the Modem for setup involves three basic steps: initial setup, plugging in the Modem's power cord, and connecting the Modem to the computer.

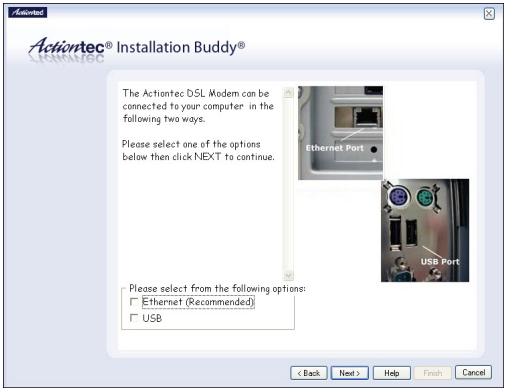
Connecting Via Ethernet

1. Insert the Installation CD in the CD-ROM drive of the computer. The Installation Buddy starts automatically. Wait until the following screen appears, read the on-screen instructions, then click **Next**.

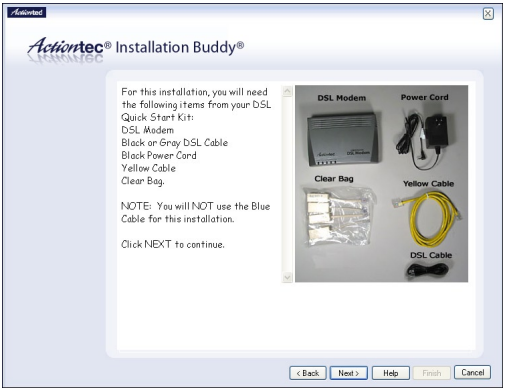
2. Read the instructions, select **Initial Setup** by clicking on the appropriate check box, then click **Next**.



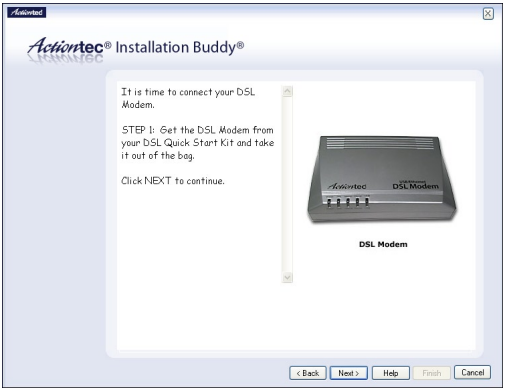
3. Click in the check box next to **Ethernet (Recommended)**, then click **Next**.



4. Make sure the items needed to connect the Modem to the first computer are included in the kit, then click **Next**.

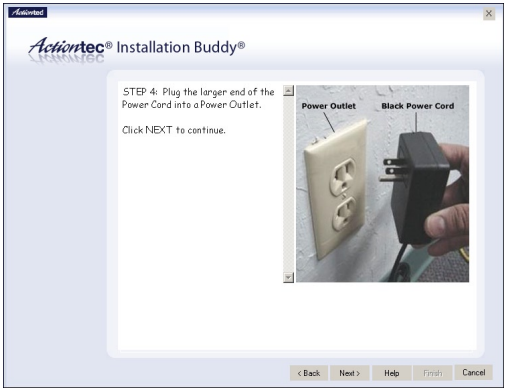


5. Get the **Modem** from the kit, then click **Next**.

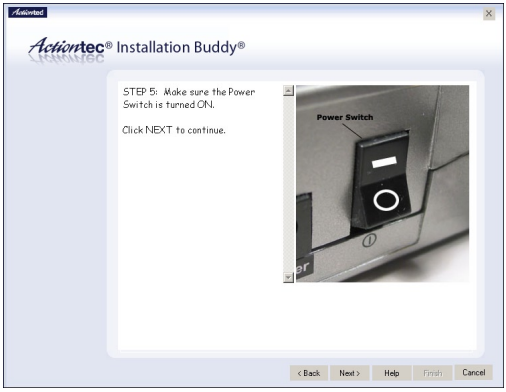


6. Get the **Power cord** and plug the smaller end into the **black Power port** on the rear panel of the Modem, then click **Next**.

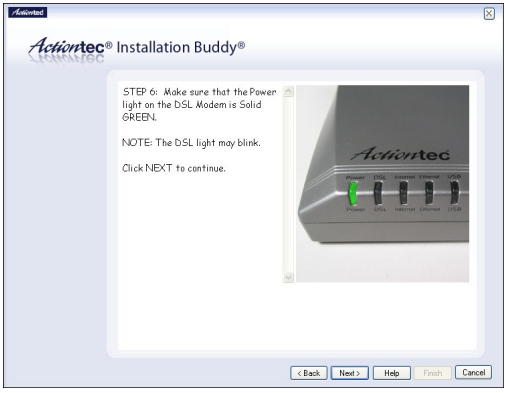
7. Plug the larger end of the **Power cord** into a **power outlet**, then click **Next**.



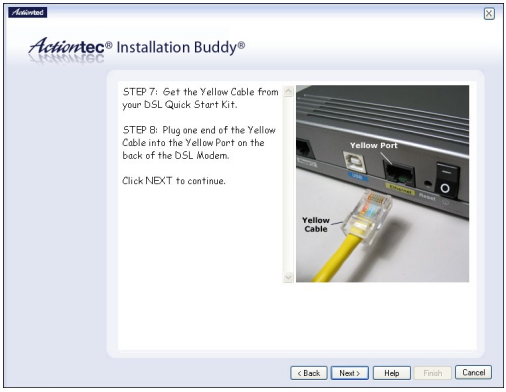
8. Click the **On/Off switch** to its on position (as shown in the picture on-screen), then click **Next**.



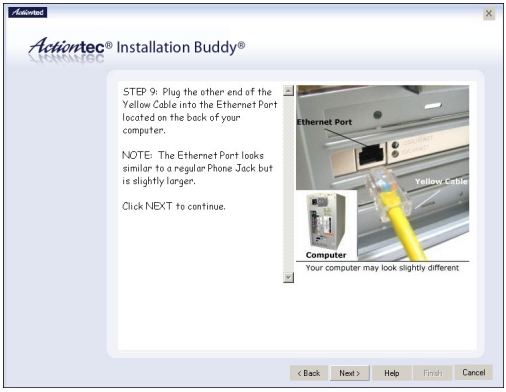
9. Confirm the **Power light** on the front of the Modem **glows solid green**, then click **Next**.



10. Get the **yellow Ethernet cable** from the kit and plug one end into the **yellow Ethernet port** on the back of the Modem, then click **Next**.

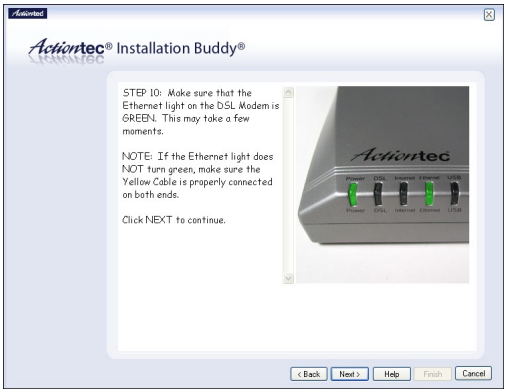


11. Plug the other end of the **yellow Ethernet cable** into an **Ethernet port** on the back of the computer. Click **Next**.

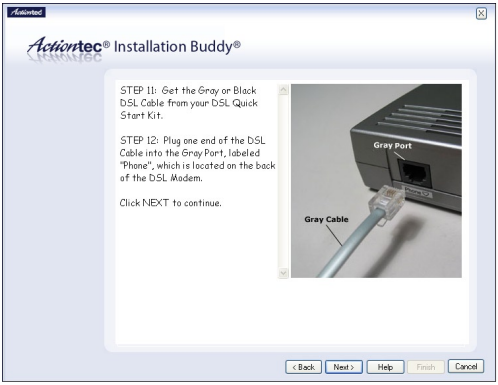


☞ ***Note***: An Ethernet port looks similar to a phone jack, but is slightly larger.

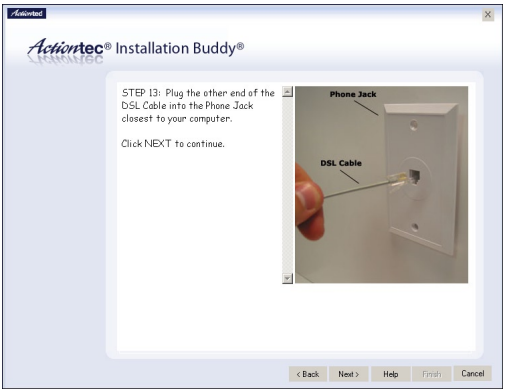
12. Make sure the **Ethernet light** on the front of the Modem **glows solid green**. Click **Next**.



13. Get the **black or gray DSL cable** from the kit and plug one end into the **gray Line port** on the rear panel of the Modem. Click **Next**.



14. Plug the other end of the **black or gray DSL cable** into the **phone jack** closest to the computer. Click **Next**.



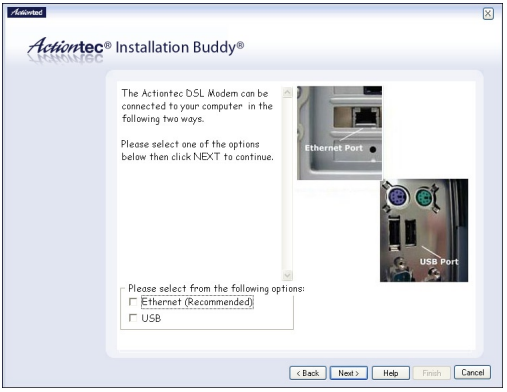
The Modem is connected to a computer via Ethernet. Next, install the filters as described in "Installing Filters" on page 22.

Connecting Via USB

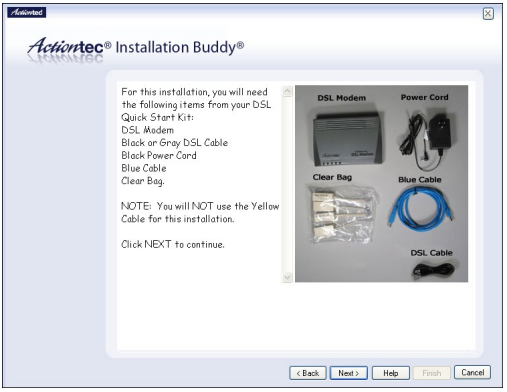
1. Insert the Installation CD in the CD-ROM drive of the computer. The Installation Buddy starts automatically. Wait until the following screen appears, read the on-screen instructions, then click **Next**.

2. Read the instructions, select **Initial Setup** by clicking on the appropriate check box, then click **Next**.

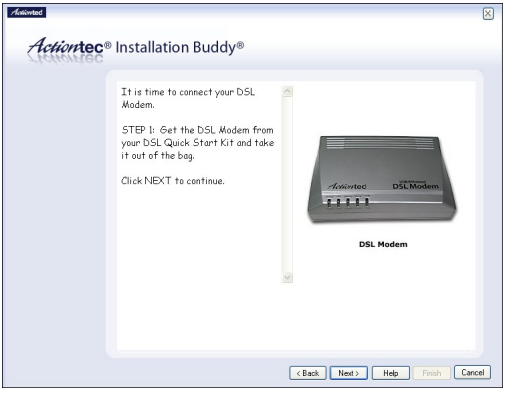
3. Click the check box next to **USB**, then click **Next**.



4. Make sure the items needed to connect the Modem to the first computer are included in the kit, then click **Next**.

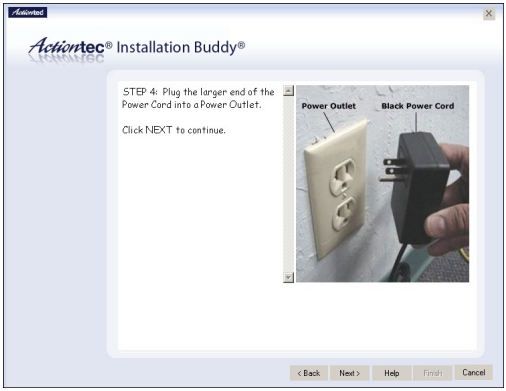


5. Get the **Modem** from the kit, then click **Next**.

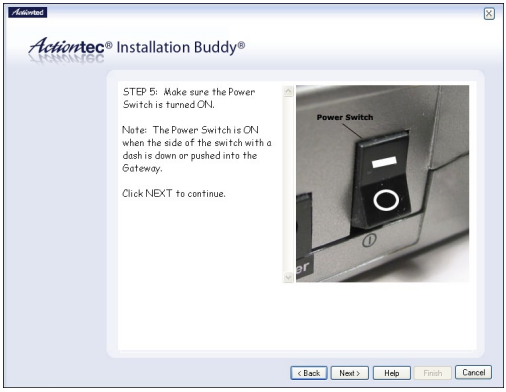


6. Get the **Power cord** and plug the smaller end into the **black Power port** on the rear panel of the Modem, then click **Next**.

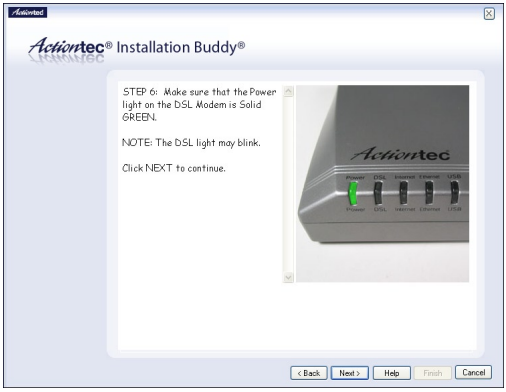
7. Plug the larger end of the **Power cord** into a **power outlet**, then click **Next**.



8. Click the **On/Off switch** to its on position (as shown in the picture on-screen), then click **Next**.

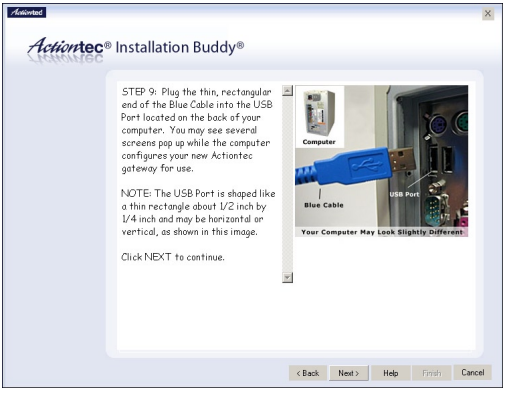


9. Confirm the **Power light** on the front of the Modem **glows solid green**, then click **Next**.

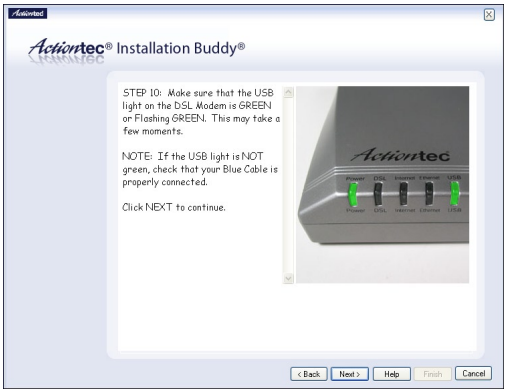


10. Get the **blue USB cable** from the kit and plug the square end into the **blue USB port** on the back of the Modem, then click **Next**.

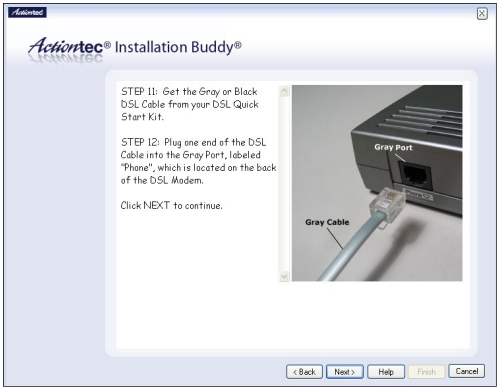
11. Plug the rectangular end of the **blue USB cable** into an **USB port** on the front or back of the computer. Click **Next**.



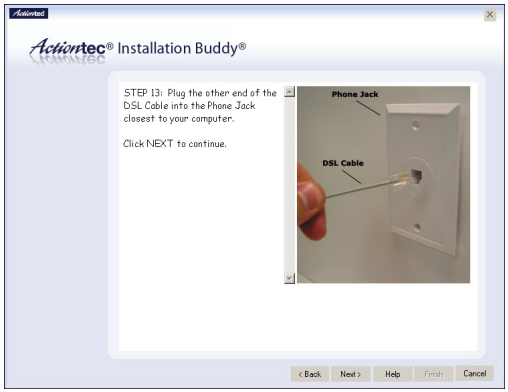
12. Make sure the **USB light** on the front of the Modem **glows solid green**. Click **Next**.



13. Get the **black or gray DSL cable** from the kit and plug one end into the **gray Phone port** on the rear panel of the Modem. Click **Next**.



14. Plug the other end of the **black or gray DSL cable** into the **phone jack** closest to the computer. Click **Next**.

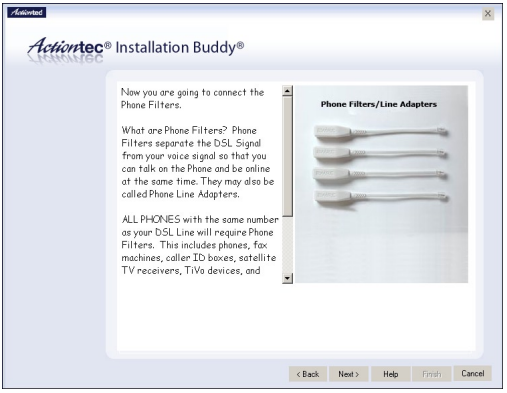


The Modem is connected to a computer via USB. Next, install the filters as described in "Installing Filters," on the next page.

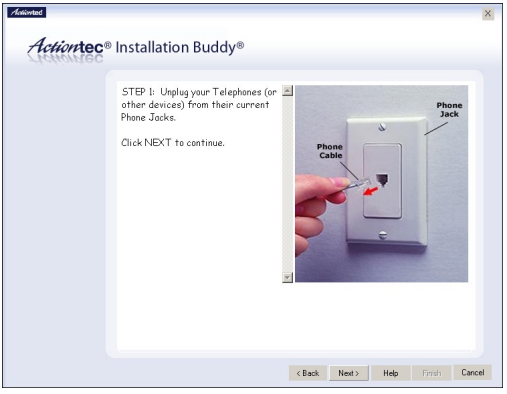
Installing Phone Filters

Phone filters allow the use of the telephone while online. All telephones and other devices (answering machines, fax machines, etc.) using the same phone line (i.e., using the same phone number) as the DSL line must have a phone filter installed. To install a phone filter:

1. Read the on-screen information, then click **Next**.



2. Read the on-screen information, then unplug all telephones and other devices from their respective phone jacks. Click **Next**.

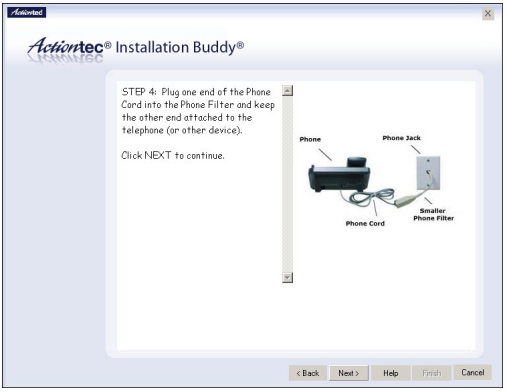


3. Get the **phone filters**. Click **Next**.

Caution: **Do not** unplug the black or gray DSL cable from the phone jack near your computer.

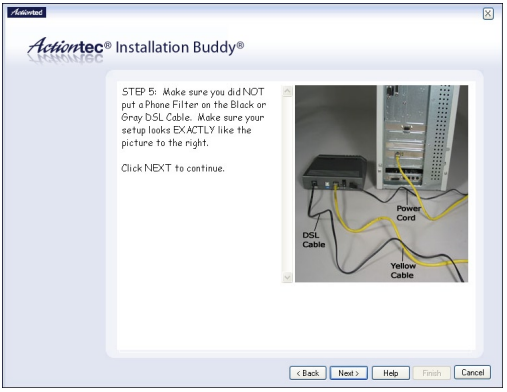
4. Plug a **phone filter** into every **phone jack** with a telephone or other device connected to it, then click **Next**.

5. Plug the ends of the phone lines disconnected in step 2 into the phone filters plugged into phone jacks. Click **Next**.

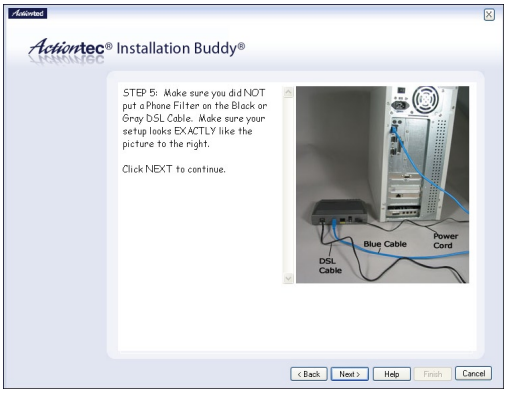


Caution: **Do not** plug a phone filter in the phone jack in which the black or gray DSL cable is plugged.

6. Read the on-screen instructions, and make sure the Modem is connected exactly as shown, depending on whether the Modem is connected via Ethernet or USB.
Ethernet connection setup:

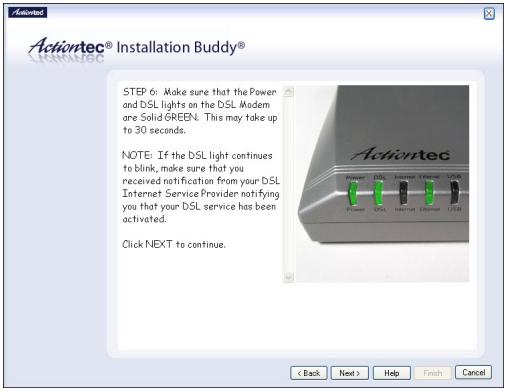


USB connection setup:



Click **Next**.

7. Make sure the DSL light on the Modem **glows solid green** (this may take a few moments). Click **Next**.

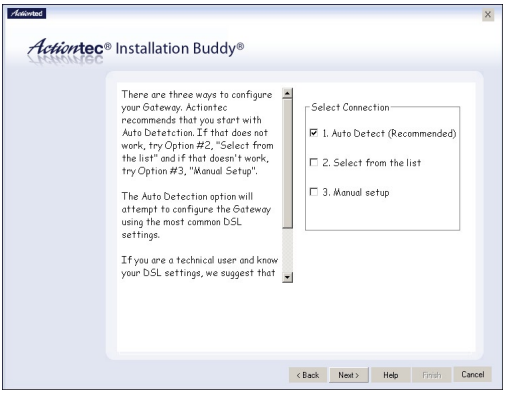


Next, go to "Setting Up the DSL Connection" on the next page.

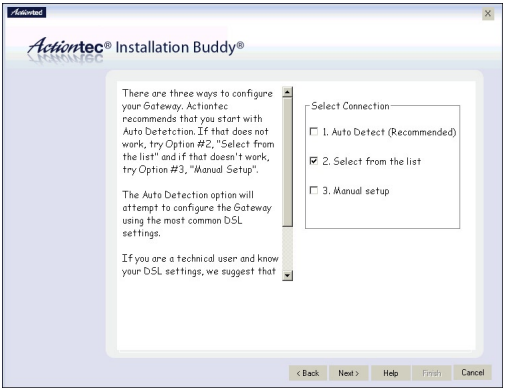
Setting Up the DSL Connection

After connecting the Modem and installing phone filters, the DSL connection must be configured. To do this:

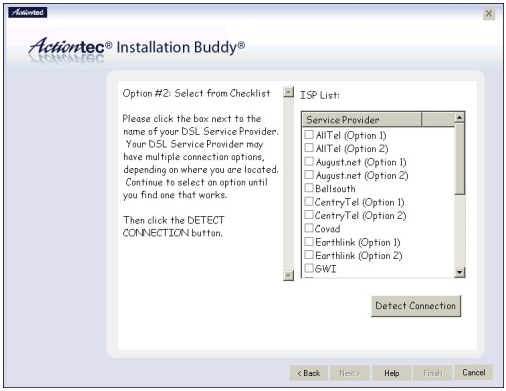
1. Select one of the options in the "Select Connection" box: **Auto Detect**, **Select from the list**, or **Manual Setup**.
   Auto Detect - if selected, click **Next**. The DSL connection is automatically detected, and a series of informational screens will be displayed while the Modem searches for the connection. If successful, go to step 2. If unsuccessful, go to **Select from the list**, below.



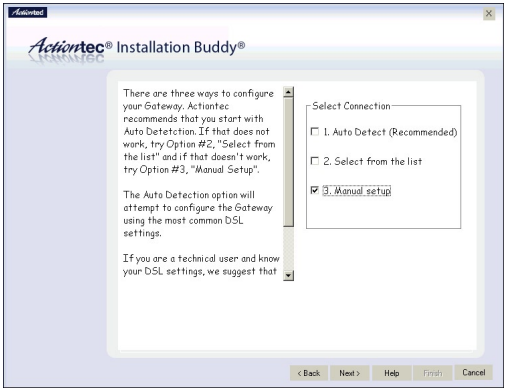
Select from the list - If Auto Detect is not successful, or the user knows which ISP to connect to, click in the "Select from the list" box, then click **Next**.



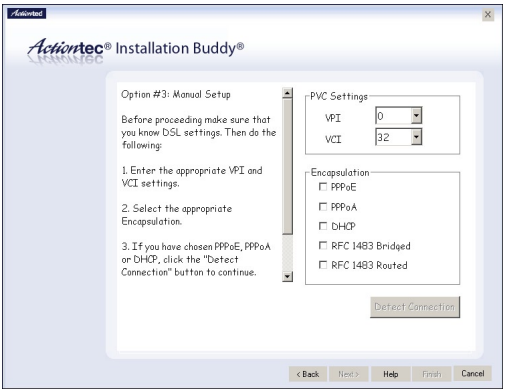
In the next window, select the ISP being used from the list box on the right (scroll down for more choices), then click **Next**. A series of informational screens will display while the Modem searches for the connection. If the connection is successful, go to step 2. If not, go to "Manual Setup," below.



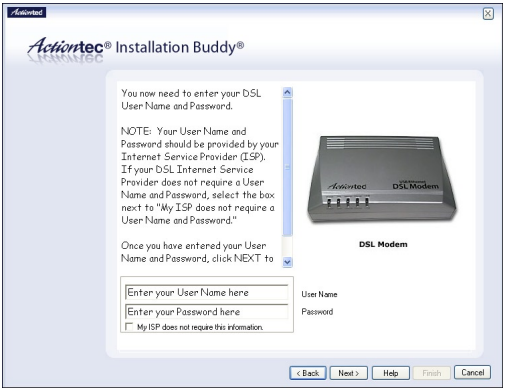
Manual Setup - If the Auto Detect and Select from a list are not successful, or the user knows how to configure VPI/VCI and Encapsulation settings, click in the "Manual Setup" box, then click **Next**.



In the next window, enter the VPI/VCI and Encapsulation settings (the ISP should provide these) then click **Next**.

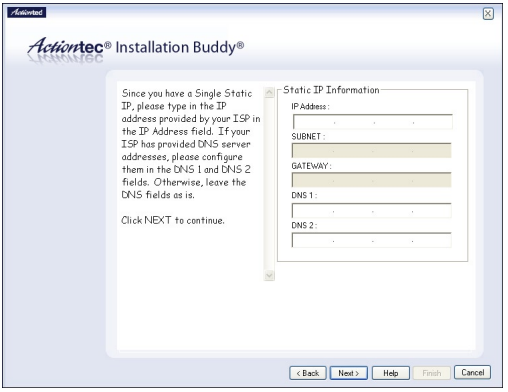


2. Enter the user name and password in the appropriate text boxes (or click the check box next to "My ISP does not require this information."), then click **Next**.

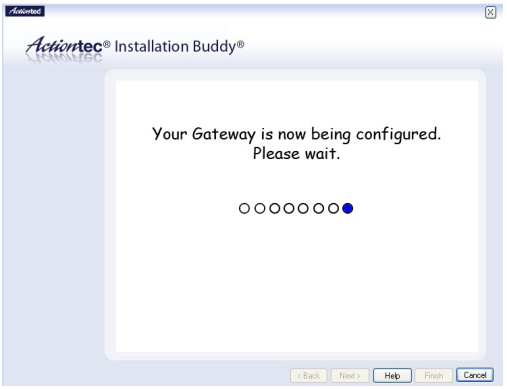


3. Select the appropriate IP type. This information should be provided by the ISP. When finished, click **Next**.
If **Static IP** is selected, go to step 4.
If **Dynamic IP (DHCP)** is selected, got to step 5.

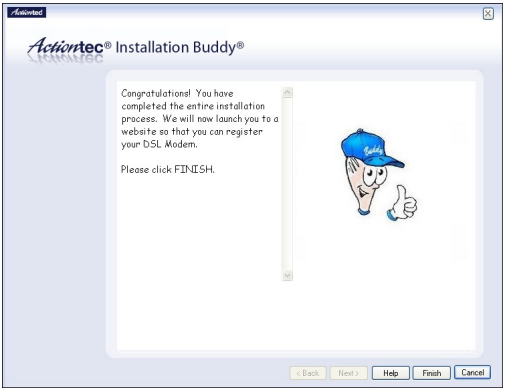
4. In the next window, enter the **IP Address**, **Subnet**, **Modem**, **DNS 1**, and **DNS 2** information (if applicable) in the proper text boxes. This information is available in the Welcome Letter. When finished, click **Next** and go to step 6.



5. The Installation Buddy checks the configuration of the Modem.



6. When the configuration is complete, a series of congratulations windows appears. Read the on-screen information, then click through the next few windows to exit the Installation Buddy.



The Modem is successfully configured and ready for use.

To make changes to the Modem's Advanced Configuration settings, see Chapter 4, "Using Advanced Setup."

To create a network by connecting more computers to the Modem, see Chapter 7, "Setting Up a Network."

Performing a Basic Setup

3

This chapter is a guide through a basic configuration setup of the Modem for users who did NOT use the Actiontec Installation Buddy® to set up the Modem. The basic setup includes instructions on how to connect the Modem to the ISP and change the user name and password.
To complete a basic setup, the user will need information provided by the ISP and access the Modem's Web Configurator. This information from the ISP is sometimes contained in a welcome letter or ISP worksheet. If this document is not available, contact the ISP immediately and request one.

Basic Setup

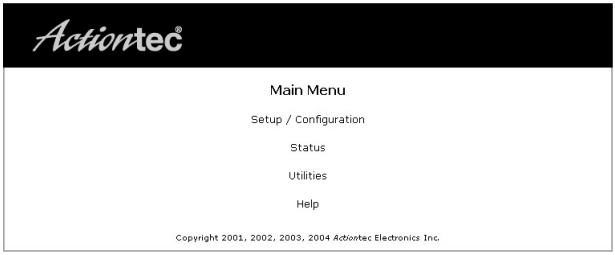
☞ ***Note:*** If you already set up the Modem using the Installation Buddy (as described in Chapter 2, "Setting Up the Modem"), the settings described in this section have already been configured. Please continue to chapter 4, "Using Advanced Setup," to configure the advanced settings of the Modem.

1. Open a Web browser. In the "Address" text box, type

`http://192.168.0.1`

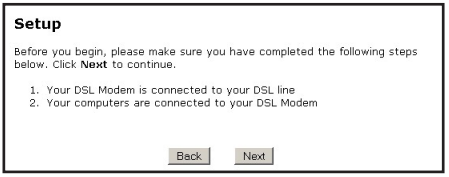
then press **Enter** on the keyboard.

2. The Web Configurator's "Main Menu" screen appears. Select **Setup/ Configuration**.

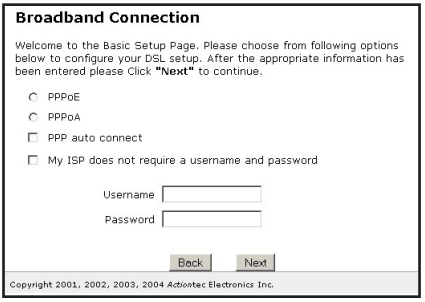


3. Follow the instructions in the "Set Up/Configuration" screen, then click **Begin Basic Setup**.

4. In the next screen, follow the on-screen instructions, then click **Next**.

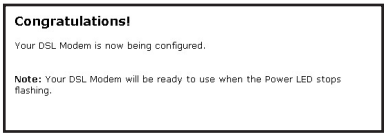


5. In the next screen, select the type of connection provided by the ISP by clicking in the circle next to **PPPoA** or **PPPoE**. If unsure about the selection, check the information provided by the ISP. Then, enter the **User Name** and **Password** provided by the ISP in the appropriate text boxes. If no user name or password is needed, click in the box next to "My ISP does not require a username and password." Click **Next**.



6. Click the **Save and Restart** button in the "Save and Restart" screen.

7. The "Congratulations" screen appears. The Modem is successfully configured.

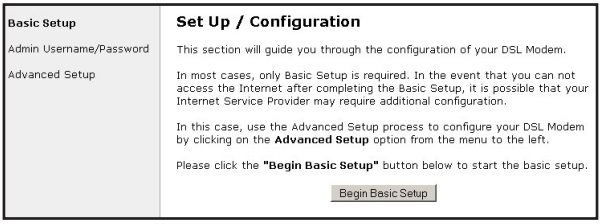


The Power light flashes rapidly while the Modem restarts, then glows steadily green when fully operational. The Internet light will also glow steadily green. The Modem is now configured and users can start surfing the Web.
If an error stating the Web browser was unable to connect to the Internet appears, check the configuration settings. Ensure all the information required by the ISP was entered correctly.

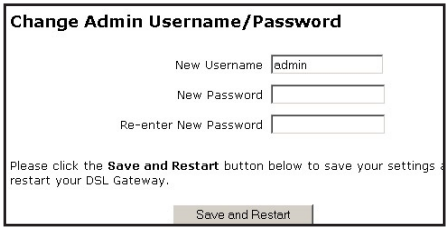
Changing the Admin User Name and Password

To create or change the admin user name and password, controlling access to the Modem's Web Configurator screens, follow these instructions:

1. From the Setup/Configuration screen, select **Admin Username/Password** from the menu on the left side.



2. The "Change Admin Username/Password" screen appears. Enter a new user name (optional) in the "New Username" text box, then a password in the "New Password" text box. Re-enter the password in the "Re-enter New Password" text box. Make sure to write the user name and password down and keep them in a secure location. They will be needed to access to the Modem's Web Configurations screens in the future.



3. Click **Save and Restart** at the bottom of the screen.

4. The "Save and Restart" page appears. Click the **Save and Restart** button to save the settings changed in the Change Admin Username/Password screen.

Once the Modem has rebooted, the password is active. To access the Modem's Web Configuration screens, the username and password must be entered.

Using Advanced Setup

4

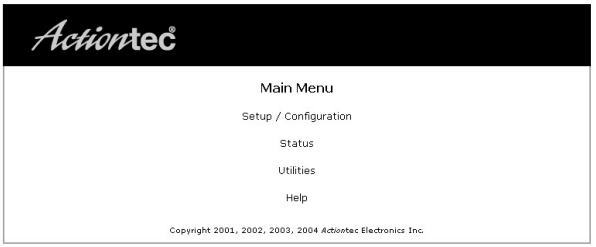
This section contains information concerning setting up the advanced features of the Modem, such as wireless settings, remote management, and Web site blocking, using the Modem's Web Configurator.

Accessing Advanced Setup

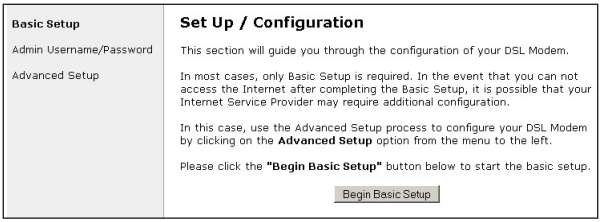
To access the Web Configurator's Advanced Setup screens:

1. Open a Web browser. In the "Address" text box type:
   `http://192.168.0.1`
   then press **Enter** on the keyboard.

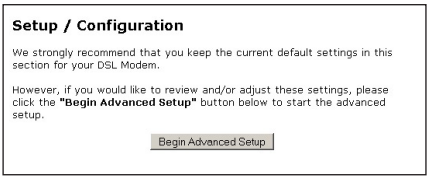
2. The "Main Menu" screen appears. Select **Setup/Configuration**.



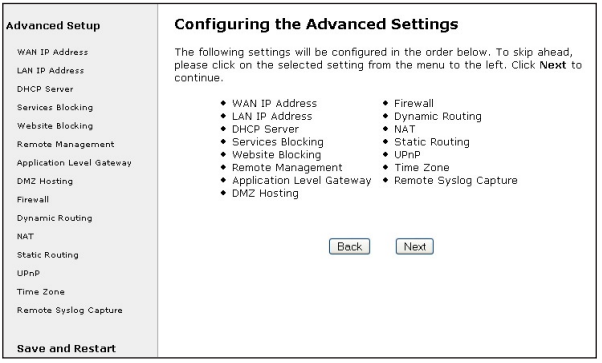
3. In the "Set Up/Configuration" screen, read the instructions, then select **Advanced Setup** from the menu on the left side.



4. In the next screen, read the recommendations. To perform an advanced setup on the Modem, click **Begin Advanced Setup**.



5. The "Configuring the Advanced Settings" screen appears. To check all the settings, or if unsure of which settings to modify, select **Next**. To modify a specific configuration, click on its name in the menu bar on the left.



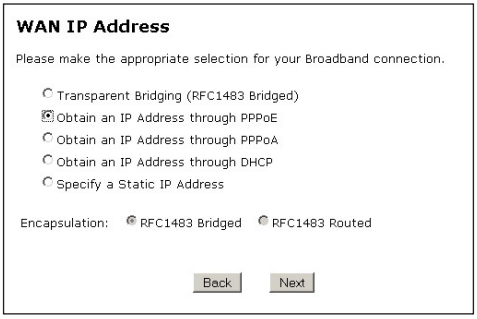
Note: To save changes made in any of the Advanced Setup screens, click **Save and Restart** at the bottom of the gray menu on the left side of the screen.

WAN IP Address

Selecting **WAN IP Address** in the "Configuring the Advanced Settings" screen generates the "WAN IP Address" screen. WAN IP Address allows manual set up of the IP address of the Modem. There are five ways to do this: **Transparent Bridging, Obtain an IP Address through PPPoE**, **Obtain an IP Address Through PPPoA**, **Obtain an IP Address through DHCP**, and **Specify a Static IP Address**.

Note: If unsure about which connection is present, check with the Internet Service Provider (ISP) before continuing.

After selecting a connection type, click **Next** to continue configuring the connection.

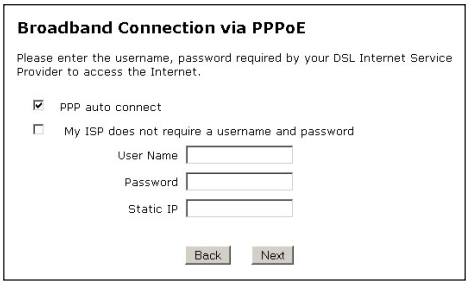


Transparent Bridging

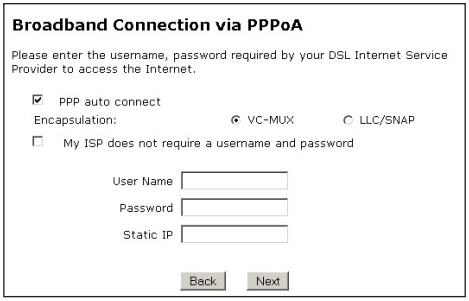
Select this option to use the Modem as a transparent bridge. This option should only be used if the Modem is being used as a modem to connect your computer to the Internet via a DSL connection. When the Modem is being used as a transparent bridge, it does not provide any firewall security.

Obtain an IP Address through PPPoE or PPPoA

Select one of these options to allow the Modem to use the Point-to-Point over Ethernet (PPPoE) or Point-to-Point over ATM (PPPoA) protocol.
"**Broadband Connection via PPPoE" screen:**



"Broadband Connection via PPPoA" screen:



If a **User Name** and **Password** was entered in the Installation Buddy or during Basic Setup, it should be displayed in the "Broadband Connection via PPPoE/PPPoA" screen. If not, enter the information now. If the information is unavailable, contact the ISP.

PPP Auto Connect

If **PPP auto connect** is activated (by clicking in the appropriate check box), the Modem will attempt to automatically redial the PPP connection if it is dropped or disconnected during an online session. Actiontec recommends that you turn PPP Auto Connect ON.

Encapsulation (PPPoA only)

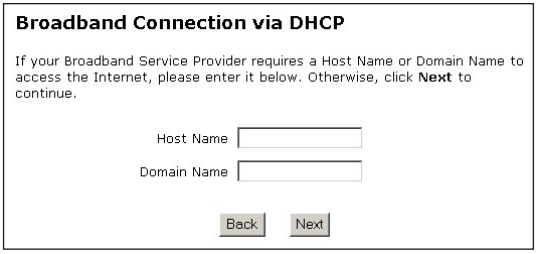
Select one of the encapsulation options, based on information received from the ISP.

Obtain an IP Through DHCP

Select this option if the IP service is configured to use RFC 1483 Bridged or Routed (used for configurations without a Static IP assigned by an ISP). In this mode, the Modem will query the Internet Service Provider (ISP) to receive the IP address and routing information, which will terminate at the Modem, as opposed to the IP address and routing information being bridged to terminate at the computer. This allows the use of the router capabilities for the Local Area Network (LAN).

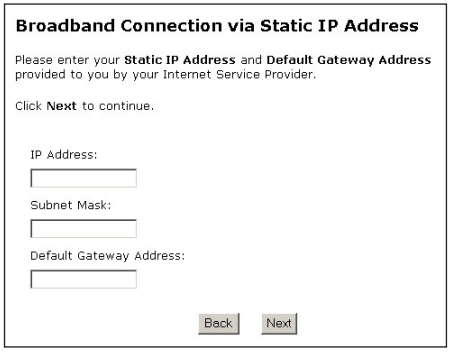
Some ISPs need to authenticate their end users with a **Host Name** and/or **Domain Name**. If this is the case, check with the ISP for a host name and domain name and enter them in the appropriate text boxes in the "Broadband Connection via DHCP" screen. If the ISP does not require these settings, leave the text boxes blank.

☞ ***Note***: Contact the ISP if unsure of the proper configuration.



Specify a Static IP Address

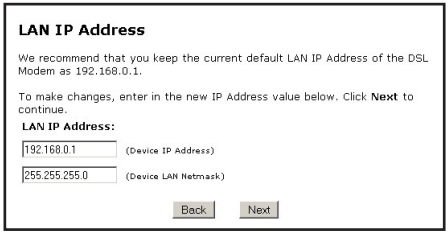
Select this option if the ISP service is configured to use RFC 1483 Bridged or Routed using a Static IP Address. Enter the **IP Address**, **Subnet Mask**, and **Default Gateway Address** provided by the ISP in the "Broadband Connection via Static IP Address" screen, which causes the IP address and routing information to terminate at the Modem, as opposed to the IP address and routing information being bridged to terminate at the computer. This allows the use of the router capabilities for the Local Area Network (LAN).



☞ ***Note***: Contact the ISP if unsure of the proper configuration.

LAN IP Address

Selecting **LAN IP Address** in the "Configuring the Advanced Settings" screen generates the "LAN IP Address" screen.



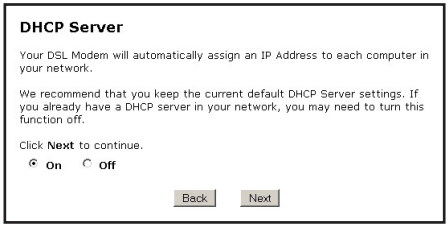
The values in the "Device IP Address" and "Device LAN Netmask" text boxes are the IP address and Subnet mask of the Modem as seen on the network. These values can be modified for your LAN network, but Actiontec recommends keeping the default factory settings (IP address 192.168.0.1 Subnet mask 255.255.255.0).

☞ ***Note***: If the Modem's LAN IP Address is modified, ensure the DHCP Server range is within the same subnet. For more information, see "DHCP Server Configuration."

After changing settings, click Next or Back to continue, or Save and Restart to make all changes permanent.

DHCP Server

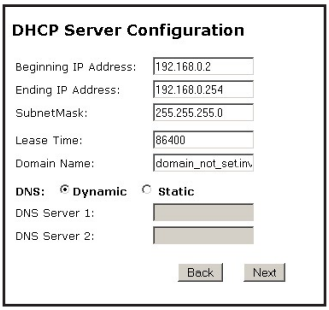
Selecting **DHCP Server** in the "Configuring the Advanced Settings" screen generates the "DHCP Server" screen. The Modem has a built-in DHCP (Dynamic Host Configuration Protocol) server that automatically assigns a different IP address to each computer on the network, eliminating IP address conflicts.
The factory default setting is **On**. To disable the DHCP Server, select **Off**.



Actiontec strongly recommends leaving the DHCP Server option **On**. If the DHCP Server option is **Off**, ensure the IP addresses of the networked computers are on the same subnet as the IP address of the Modem. For more information, see "DHCP Server Configuration."

DHCP Server Configuration

Clicking **Next** in the "DHCP Server" screen (if the DHCP server is activated) generates the "DHCP Server Configuration" screen. Change IP address range and DNS server information here.



Beginning IP Address

The "Beginning IP Address" is the IP address at which the DHCP server starts assigning IP addresses. *Action*tec recommends keeping the factory default setting (192.168.0.2).

Ending IP Address

The "Ending IP Address" is the IP Address at which the DHCP Server stops assigning IP addresses. *Action*tec recommends keeping the factory default settings (192.168.0.254).

The beginning and ending IP addresses define the IP address range of the Modem. If the default values are left intact, the Modem supplies a unique IP address between 192.168.0.2 and 192.168.0.254 to each computer on the network. Note that the first three groups of numbers of the addresses are identical; this means they are on the same subnet. The IP address of the Modem must be on the same subnet as the IP address range it generates. For instance, if the Modem's IP address is changed to 10.33.222.1, set the beginning IP address to 10.33.222.2, and the ending IP address to 10.33.222.254.

Lease Time

"Lease Time" is the amount of time, in seconds, the DHCP server will lease a particular IP address. Default is 86400 seconds (24 hours), after which a new IP address must be released. To extend the lease time, enter a larger number.

Domain Name

"Domain Name" allows a network administrator to enter a domain name if the network is being used in a domain environment.

DNS (Dynamic or Static)

These options designate the type of DNS server provided by the ISP. If the ISP provided DNS server information, select the type here. If not, leave as is.

DNS Server 1

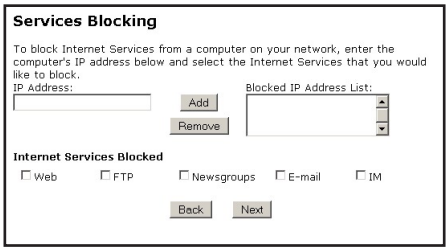
"DNS Server 1" is the primary DNS server provided by the ISP. If the ISP provided DNS server information, enter it here. If not, leave the text box intact.

DNS Server 2

"DNS Server 2" is the secondary DNS provided by the ISP. If the ISP provided secondary DNS server information, enter it here. If not, leave the text box intact.

Services Blocking

Selecting **Services Blocking** in the "Advanced Configuration" screen generates the "Services Blocking" screen.

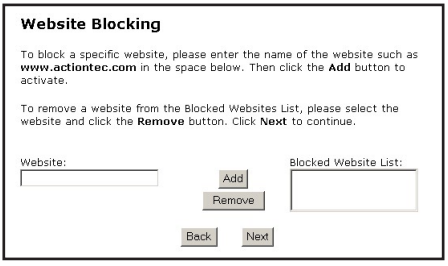


To modify Internet privileges (Web, FTP, Newsgroups, etc.) for the computers on the network:

1. Enter the computer's IP address in the **IP Address:** text box.
2. Select the Internet service(s) to be blocked.
3. Click **Add** to enter the computer's IP address in the "Blocked IP Address List" text box.
4. To remove blocked services, select the computer's IP address in the "Blocked IP Address List" text box and click **Remove**.

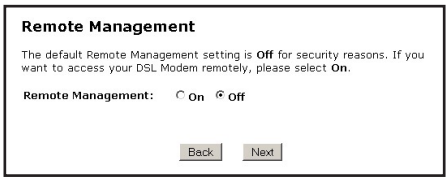
Website Blocking

Selecting **Website Blocking** in the "Configuring the Advanced Settings" screen generates the "Website Blocking" screen. This feature enables the Modem to block Web sites to all computers on the network. To block a Web site, enter the address of the Web site in the "Website" text box and click **Add**. The blocked Web site address is displayed in the "Blocked Website List" text box, and will not be available to computers on the network. To remove a blocked Web site, click on it in the "Blocked Website List," then click **Remove**. Website Blocking supports blocking up to 50 Web sites.



Remote Management

Selecting **Remote Management** in the "Configuring the Advanced Settings" screen generates the "Remote Management" screen. Remote Management allows access to the Modem through the Internet via another computer. Actiontec recommends leaving the Remote Management **Off** (the factory default setting).

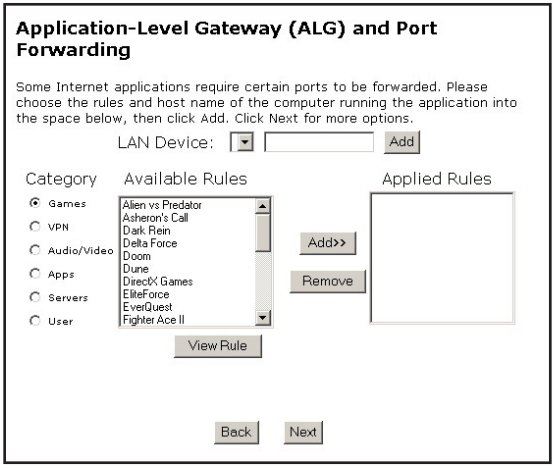


To access the Modem from the Internet, activate Remote Management by selecting **On** and writing down the WAN IP address of the Modem (see "WAN IP Address"). On a computer outside of the network, open a Web browser and enter the Modem's WAN IP address in the address text box. A username and password prompt appears in the browser window. Enter your username and password to access the Modem.

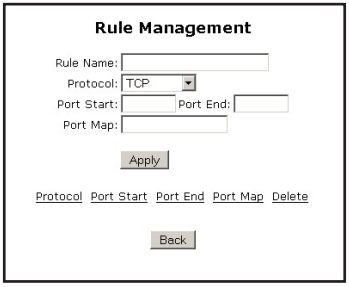
Note: Before Remote Management can be activated, the administrator password must be set. To do this, go to the Setup screen and select Change Admin Password. Follow the instructions in the subsequent screens.

Application Layer Gateway and Port Forwarding

Selecting **Application Layer Gateway** in the "Configuring the Advanced Settings" screen generates the "Application-Level Gateway (ALG) and Port Forwarding" screen. Port forwarding allows certain programs to bypass the Modem's built-in firewall, allowing access to parts of the network (for hosting a Web or ftp server, for example). To use, select the host name of a computer on the network from the "LAN Device" drop-down list (click the down arrow), then click **Add**. Next, select a "Category" by clicking the appropriate radio button. In the "Available Rules" list box, select a game, application, server, etc., then click **Add**>>. The selected item appears in the "Applied Rules" list box. Repeat for each item needed
To remove an item from the Applied Rules list, highlight it, then click **Remove**.
To view an item's rules (forwarded ports, etc.), highlight it, then click **View Rule.**



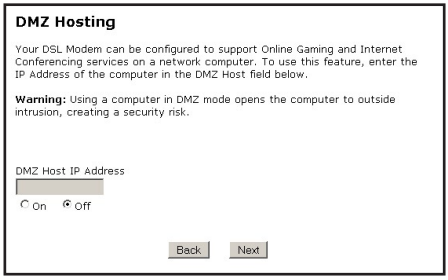
To create a custom set of rules, click the "User" radio button, then click **New**. The "Rule Management" screen appears.



In this screen, the user can create a custom set of rules for a game or application not listed in the Application Level Gateway screen. Enter the "Rule Name," "Protocol," "Port Start," "Port End," and "Port Map" in the appropriate text boxes, then click **Apply**. The rules are summarized at the bottom of the screen, and the rule set will appear in the Application Level Gateway screen after clicking **Back**.

DMZ Hosting

Selecting **DMZ Hosting** in the "Configuring the Advanced Settings" screen generates the "DMZ Hosting" screen. To use DMZ hosting, enter the IP address of the computer on the network to be used as a DMZ host in the "DMZ Host IP Address" text box, then click **On**.



DMZ hosting is used to support online gaming and Internet conferencing services. These programs usually require multiple open ports, making the network accessible from the Internet. DMZ hosting symbolically places the DMZ host computer outside of the Modem's network. Actiontec recommends activating DMZ hosting only as long as necessary.

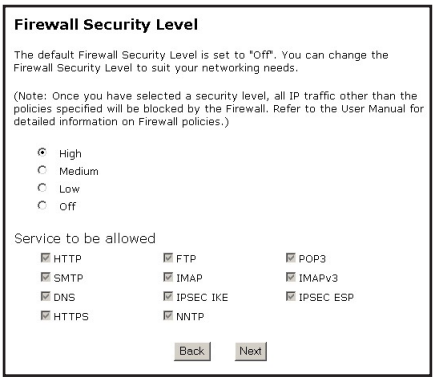
Warning: The DMZ Host computer will be vulnerable to computer hackers on the Internet while in DMZ mode.

Firewall

Selecting **Firewall** in the "Configuring the Advanced Settings" screen generates the "Firewall Security Level" screen. Select the level of security needed for the network.

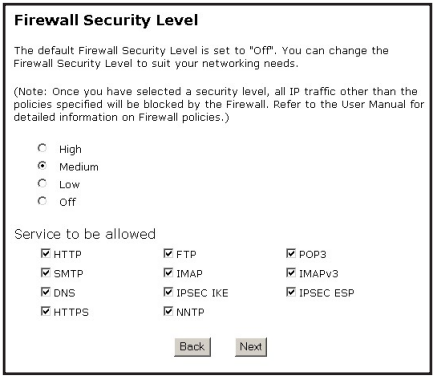
High

If **High** is selected in the "Firewall Security Level" screen, the services listed at the bottom of the screen (HTTP, FTP, POP3, SMTP, IMAP, IMAPv3, DNS, IPSEC IKE, IPSEC ESP, HTTPS, and NNTP) are the only ones allowed to pass through the firewall. All other services will be blocked.



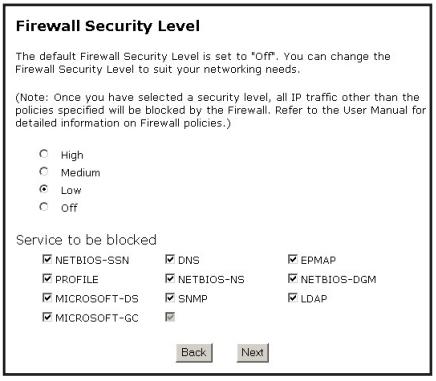
Medium

If **Medium** is selected in the "Firewall Security Level" screen, the services listed at the bottom of the screen (HTTP, FTP, POP3, SMTP, IMAP, IMAPv3, DNS, IPSEC IKE, IPSEC ESP, HTTPS, and NNTP) are allowed to pass through the firewall. Additionally, the user can click in the appropriate check box to allow or deny access for a particular service (check mark in the check box to allow; blank check box to deny). All services not listed are denied access.



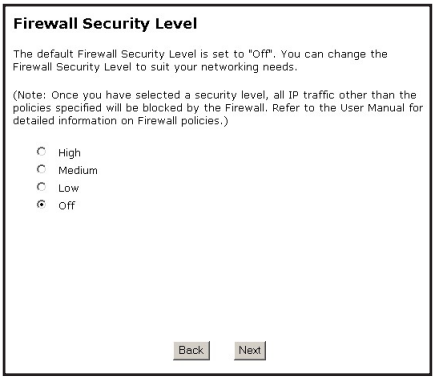
Low

If **Low** is selected in the "Firewall Security Level" screen, the services listed at the bottom of the screen (NETBIOS-SSN, DNS, EPMAP, PROFILE, NETBIOS-NS, NETBIOS-DGM, MICROSOFT-DS, SNMP, LDAP, and MICROSOFT-GC,) are blocked-by the firewall. Additionally, the user can click in the appropriate check box to allow or deny access for a particular service (check mark in the check box to allow; blank check box to deny). All services not listed are denied access.



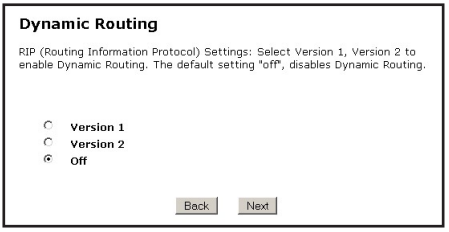
Off

If **Off** is selected in the "Firewall Security Level" screen, firewall filtering is based solely on the basic NAT firewall.



Dynamic Routing

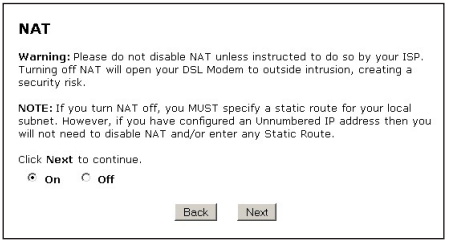
Selecting **Dynamic Routing** in the "Configuring the Advanced Settings" screen generates the "Dynamic Routing" screen.



If another router or gateway is set up behind the Modem in the network configuration, consult the documentation that came with the other router/gateway to see what kind of Dynamic Routing is required operate it with the Modem, then select the appropriate option.

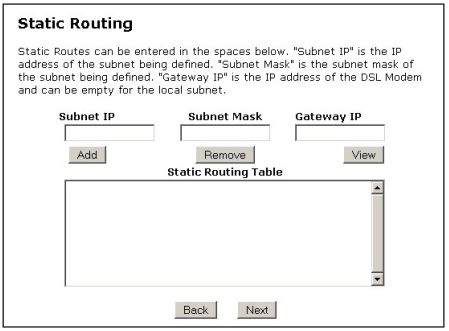
NAT (Network Address Translation)

Selecting **NAT** in the "Configuring the Advanced Settings" screen generates the "NAT" screen. The Modem's basic firewall security is based on NAT. Disabling NAT allows the computers connected to the Modem to be accessed by outside parties. Do not turn NAT off unless instructed to do so by the ISP.



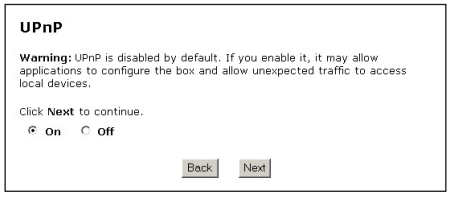
Static Routing

Selecting **Static Routing** in the "Configuring the Advanced Settings" screen generates the "Static Routing" screen. Enter the addresses in their respective text boxes, then click **Add**. The address will appear in the "Static Routing Table." To remove an address, highlight it by clicking on it in the Static Routing Table, then click **Remove**.



UPnP (Universal Plug and Play)

Selecting **UPnP** in the "Configuring the Advanced Settings" screen generates the "UPnP" screen. In this screen, the Universal Plug and play option is turned on or off by activating the appropriate circle.

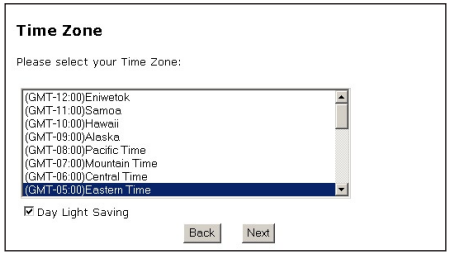


Universal Plug and Play is a zero-configuration networking protocol that allows hardware and software (such as Netmeeting) to operate more efficiently. If Netmeeting is not running properly, activate UPnP.

☞ ***Note***: Activating UPnP presents a slight security risk. After finishing with the hardware or software using UPnP, Actiontec recommends deactivating UPnP.

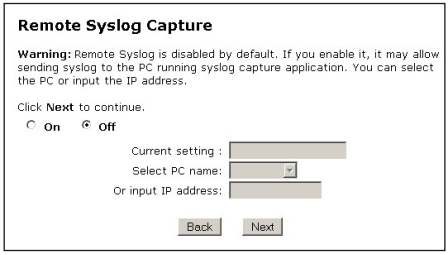
Time Zone

Selecting **Time Zone** in the "Configuring the Advanced Settings" screen generates the "Time Zone" screen. In this screen, select the time zone in which the Modem is being used.



Remote Syslog Capture

Selecting **Remote Syslog Capture** in the "Configuring the Advanced Settings" screen generates the "Remote Syslog Campter" screen. In this screen, the user can configure the Modem to allow a remote computer to access the Modem's system logs.



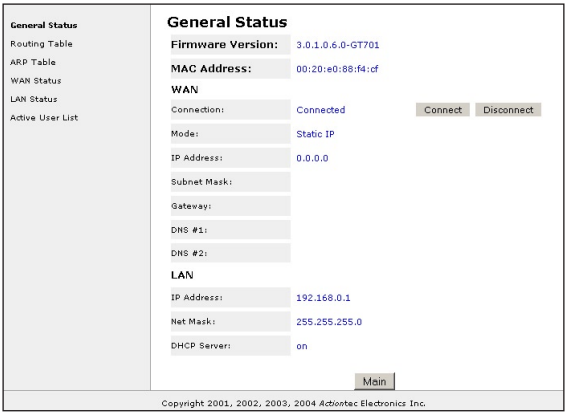
Viewing the Modem's Status

5

After configuring the Modem, settings can be viewed by selecting **Status** in the Web Configurator's Main Menu. In the menu on the left side, there are other Status options available: **Routing Table**, **ARP Table**, **WAN Status**, **LAN Status**, and **Active User List**.
No settings (other than connecting or disconnecting from the Internet) can be changed from the Current Status screen.

General Status

After configuring the Modem, settings can be viewed by selecting **Status** in the Main Menu. The "General Status" screen appears, displaying many of the Modem's settings. No settings (other than connecting or disconnecting from the Internet by clicking on **Connect** or **Disconnect**) can be changed from the General Status screen.



Firmware Version

Displays the firmware version the Modem is currently running.

MAC Address

Displays the MAC (Media Access Control) address of the Modem.

WAN - Connection

Displays the state of the connection to the ISP service (**Connected, Disconnected**, or **Connecting**).

WAN - Mode

Displays the type of connection used to communicate with the ISP.

WAN - IP Address

Displays the IP address the ISP assigned to the Modem.

WAN - Subnet Mask

Displays the subnet mask address the ISP assigned to the Modem.

WAN - Gateway

Displays the Gateway address (for the IP address and subnet mask) the ISP assigned to the Modem.

WAN - DNS #1 & #2

Displays the Domain Name Server address(es) the ISP assigned to the Modem.

LAN - IP Address

Displays the Local Area Network's (LAN) IP address.

LAN - Net Mask

Displays the subnet mask address configured for the LAN IP address.

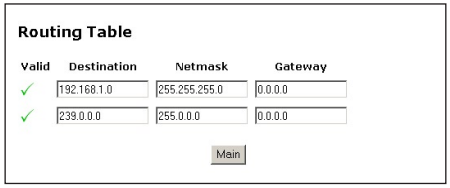
LAN - DHCP Server

Displays the state of the DHCP Server (**On** or **Off**).

In the menu on the left side, there are other Status options available: **Routing Table**, **ARP Table**, **WAN Status**, **LAN Status**, and **Active User List**. Click to generate the Status option of choice.

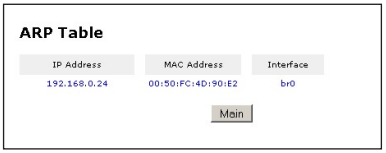
Routing Table

Selecting **Routing Table** generates the "Routing Table" screen. This screen displays an overview of the Modem's routes.



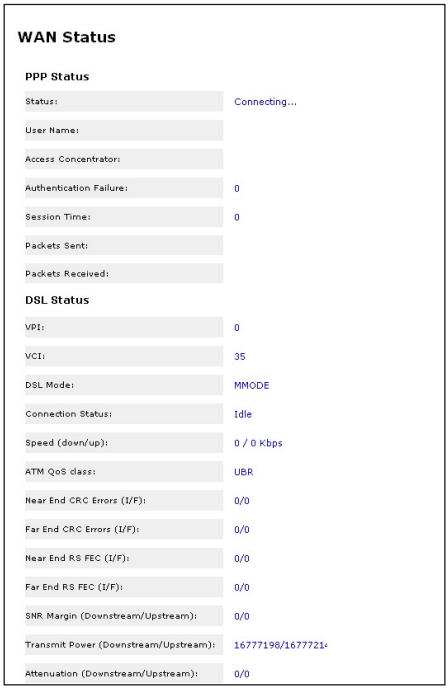
ARP Table

Selecting **ARP Table** generates the "ARP Table" screen. This screen displays the Modem's IP address, MAC address and interface type.



WAN Status

Selecting **WAN Status** generates the "WAN Status" screen. This screen displays on overview of the Modem's WAN (Wide Area Network) connection, including information concerning the WAN and DSL connection, as well as OAM statistics.



WAN Status

PPP Status

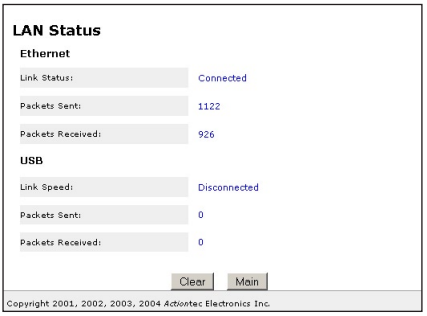
Status:	Connecting...
User Name:	
Access Concentrator:	
Authentication Failure:	0
Session Time:	0
Packets Sent:	
Packets Received:	

DSL Status

VPI:	0
VCI:	35
DSL Mode:	MMODE
Connection Status:	Idle
Speed (down/up):	0 / 0 Kbps
ATM QoS class:	UBR
Near End CRC Errors (I/F):	0/0
Far End CRC Errors (I/F):	0/0
Near End RS FEC (I/F):	0/0
Far End RS FEC (I/F):	0/0
SNR Margin (Downstream/Upstream):	0/0
Transmit Power (Downstream/Upstream):	16777198/1677721
Attenuation (Downstream/Upstream):	0/0

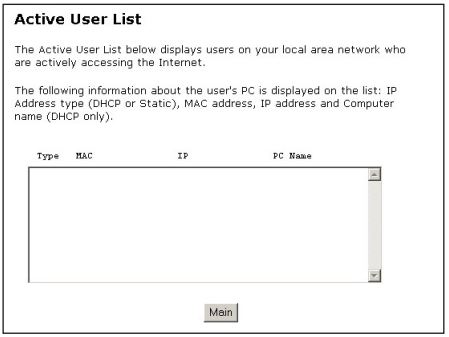
LAN Status

Selecting **LAN Status** generates the "LAN Status" screen. This screen displays on overview of the Modem's LAN (Local Area Network) port connections, including information concerning any Ethernet and USB connections.



Active User List

Selecting **Active User List** generates the "Active User List" screen. This screen displays a list of the users currently connected to the Modem accessing the Internet with Network Address Translation (NAT) security activated.



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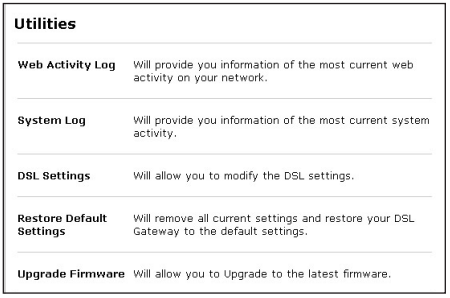
Using Utilities

6

To access the Modem's Web-based Utilities, select **Utilities** from the Web Configurator's Main Menu screen. The "Utilities" screen appears.



From this screen, the Web activity and system log can be viewed, the DSL settings changed, the Modem's factory default settings restored, and the Modem's firmware upgraded.

Web Activity Log

The Web Activity Log provides information about the Web sites each computer on the Modem's network has visited. To access the Web Activity Log, select **Web Activity Log** from the "Utilities" screen.

Auto Refresh

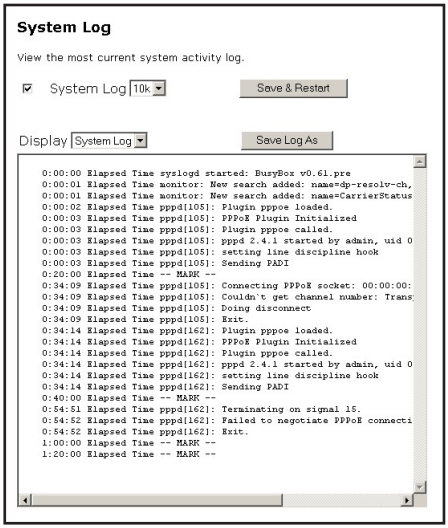
To set the Web Activity Log screen to automatically refresh at certain intervals, activate the circle next to "Auto Refresh Every" at the bottom of the Web Activity Log screen, then enter a time value (in seconds) in the text box, or click on the down arrow and select a time value from the menu that appears. The Web Activity Log will refresh at the selected interval.

Manual Refresh

To set the Web Activity Log screen to manually refresh, activate the circle next to "Manual Refresh" at the bottom of the Web Activity Log screen. To refresh the Web Activity Log screen, click **Refresh**.

System Log

The System Log provides information about the Modem's activity. To access the Web Activity Log, select **Web Activity Log** from the "Utilities" screen.



System Log (Size)

Select the size of the system log displayed here. The smaller the size, the shorter the length of the system log saved.

Display

View other saved logs by selecting a log from this drop-down list.

Save & Restart

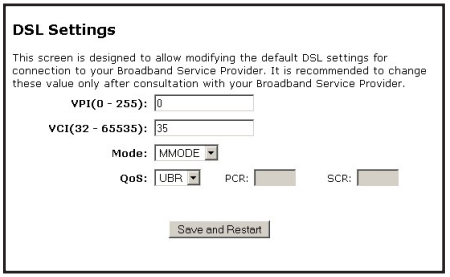
Pressing this button saves any changes to the System Log screen and causes the Save and Restart screen to appear.

Save Log As

Pressing this button allows the user to save a log as a file.

DSL Settings

To access DSL Settings, select **DSL Settings** from the "Utilities" screen. The Modem's VPI, VCI, Mode, and QoS (Quality of Service) settings can be changed from this screen. Actiontec recommends not changing these values without first consulting the ISP.

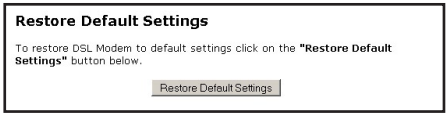


Restore Default Settings

To restore the Modem to its factory default settings, select **Restore Default Settings** from the "Utilities" screen. When the "Restore Default Settings" screen appears, click **Restore Default Settings**. Any changes made to the Modem's settings will be lost and the factory default settings restored. During this process, the Modem's Power light flashes and the Modem is disabled.

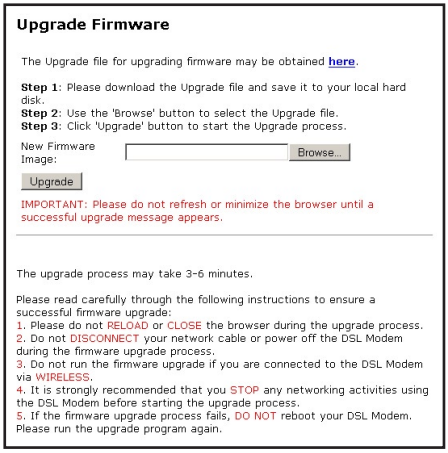
Warning: Do not unplug the Power cord from the Modem during the Restore Default Settings process. Doing so may result in permanent damage to the Modem.

When the Power Light stops flashing and glows steadily green, the Modem is fully operational.



Upgrade Firmware

Selecting **Upgrade Firmware** in the "Utilities" screen generates the "Upgrade Firmware" screen. Actiontec periodically posts firmware upgrades to enhance the Modem's capabilities. Follow the instructions on-screen to upgrade the Modem's firmware.



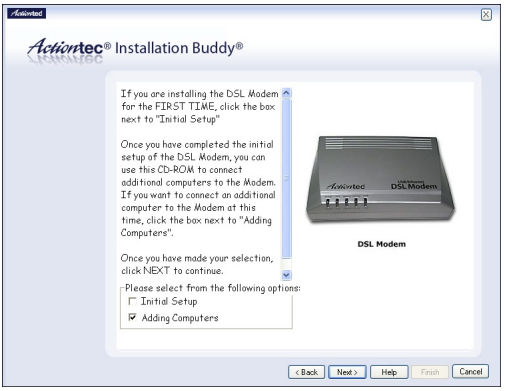
Setting Up a Network 7

Other computers can be connected to the Modem to form a network, which allows the computers to transfer files, communicate with each other, and share an Internet connection. The networked computers can be connected to the Modem in two ways: Ethernet or USB.

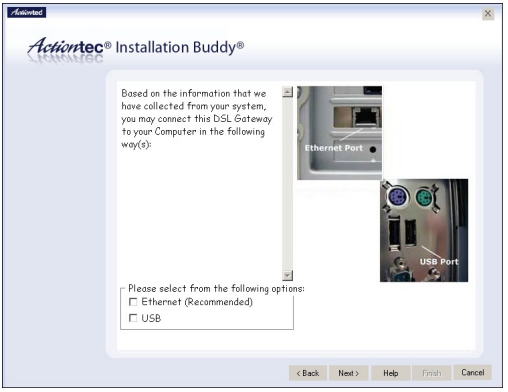
Ethernet

1. Insert the Installation CD in the CD-ROM drive of the computer. The Installation Buddy starts automatically. Wait until the following screen appears, read the on-screen instructions, then click **Next**.

2. Read the instructions, select **Adding Computers** by clicking on the appropriate check box, then click **Next**.

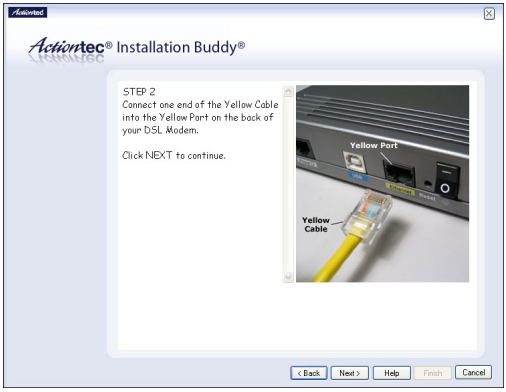


3. Select **Ethernet**, then click **Next**.

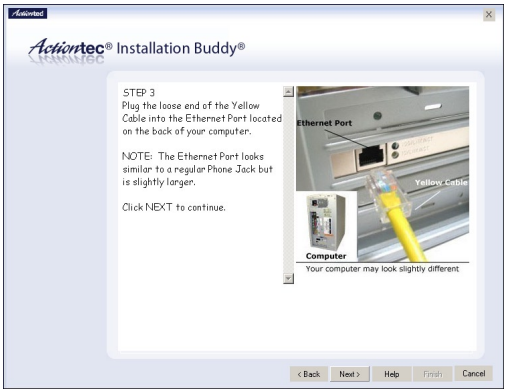


4. When the next window appears, get the **yellow Ethernet cable** from the Quick Start Kit, then click **Next**.

5. Plug one end of the **yellow Ethernet cable** into the **yellow Ethernet port** on the back of the Modem, then click **Next**.

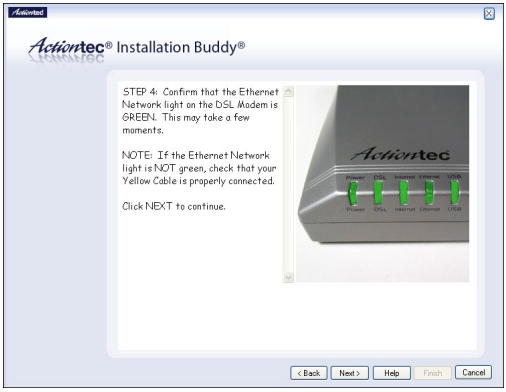


6. Plug the other end of the **yellow Ethernet cable** into an **Ethernet port** on the back of the computer, then click **Next**.



☞ ***Note***: An Ethernet port looks similar to a phone port, but is slightly bigger.

7. Make sure the **Ethernet light** glows steadily green, then click **Next**.



8. In the next window, the Installation Buddy checks the configuration of the Modem.

9. A series of congratulations windows appears. Click through them to exit the Installation Buddy.

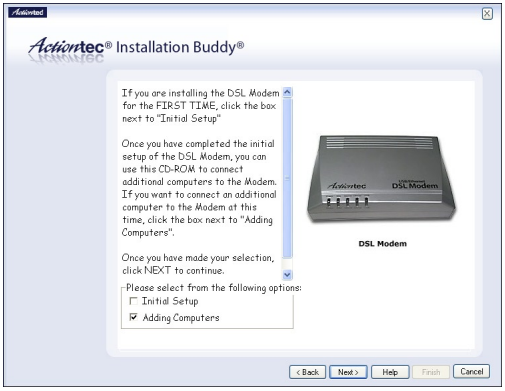
The computer is connected to the Modem via Ethernet.

USB

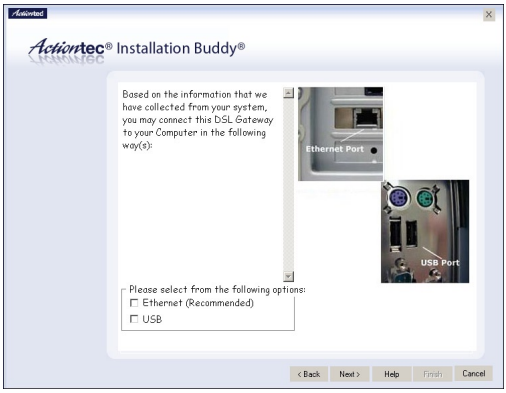
☞ ***Note***: If the first computer connected to the Modem is connected via USB, no other computers can be connected in this manner. Connect additional computers via Ethernet (see page 71) or wirelessly (see page 75).

1. Insert the Installation CD in the CD-ROM drive of the computer. The Installation Buddy starts automatically. Wait until the following screen appears, read the on-screen instructions, then click **Next**.

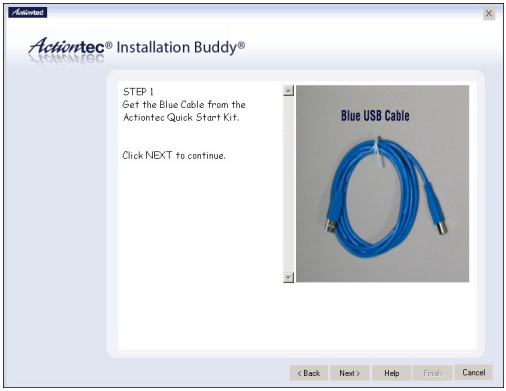
2. Read the instructions, select **Adding Computers** by clicking on the appropriate check box, then click **Next**.



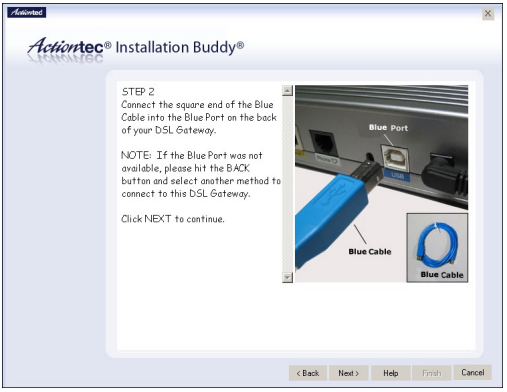
3. Select **USB**, then click **Next**.



4. When the next window appears, get the **blue USB cable** from the Quick Start Kit, then click **Next**.

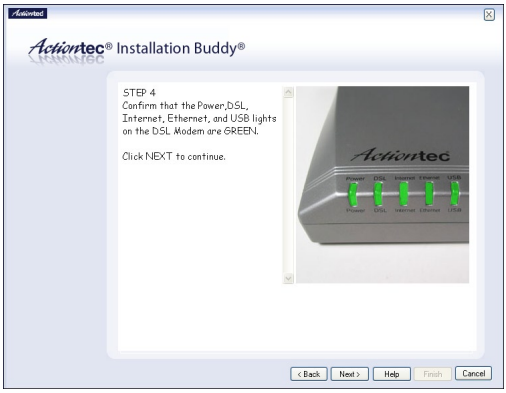


5. Plug one end of the **blue USB cable** into the **blue USB port** on the back of the Modem, then click **Next**.

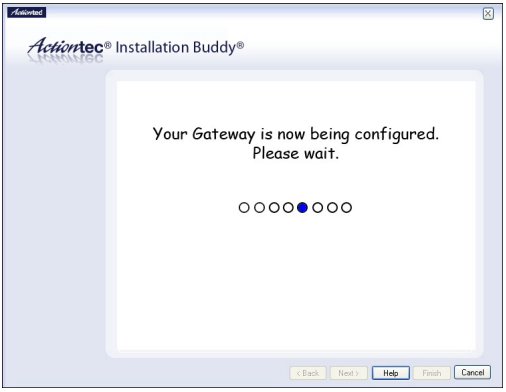


6. Plug the other end of the **blue USB cable** into a **USB port** on the front or back of the computer, then click **Next**.

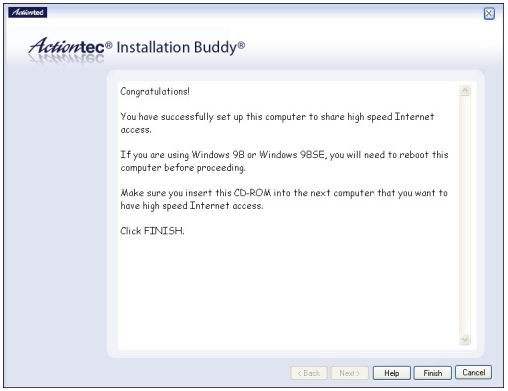
7. Make sure the **USB light** glows steadily green, then click **Next**.



8. In the next window, the Installation Buddy checks the configuration of the Modem.



9. A series of congratulations windows appears. Click through them to exit the Installation Buddy.



The computer is connected to the Modem via USB.

Troubleshooting 8

This chapter contains a list of problems that may be encountered while using the Modem, and techniques to solve them. Note that these techniques may not be successful in all cases. Also included is a list of frequently asked questions.

Troubleshooting

Cannot Use the Internet

Physical Connections

Ensure the Modem's Power light is on, as well as the appropriate lights for any active connections (Ethernet or USB). If the connection is not active, reconnect the appropriate cable.

Connection to the Router

Check that the default IP address the computer is receiving is correct by selecting **Start**, **Run**, typing **`cmd`** in the "Open" text box, then typing **`ipconfig`**. The IP address should be 192.168.0.x (with "x" representing a number from 2 through 254), and the Default Modem address should be 192.168.0.1. If not, restart the computer to allow the Modem to assign a IP address. If a static IP address was previously assigned to the computer, it will need to be removed before the Modem can dynamically assign a new IP address. After the computer restarts, check the IP address of the computer again. If it is still not correct, type **`ipconfig /?`** (note the space after **`ipconfig`**) to receive an explanation about how to release and renew the IP address.
Once the IP address has been verified as correct, open a Web browser. In the "Address" text box, type **`192.168.0.1`** and click **Go**. The Modem's Web Configurator Main Menu screen appears, verifying the Modem's active connection.

Connection to the Internet

To verify the Modem's connection to the Internet, open a Web browser. In the "Address" text box, type `192.168.0.1` and click **Go**. The Modem's Web Configurator Main Menu appears. Select **Status**, and once the "Status" screen appears, verify that "Connected" is displayed in the "WAN" section of the screen. If not, power cycle the Modem by unplugging and then replugging the Power cord. After power cycling the Modem, check the connection status again. If still disconnected, go to the Main Menu, select **Setup**, and go through a Basic Setup procedure, making sure to enter all correct selections for your connection. After saving all settings and restarting the Modem, check the connection status again. If still disconnected, unplug the Modem's Power cord and leave it unplugged for at least 10 minutes. Replug the Power cord, restart the Modem, and check the connection again.

Frequently Asked Questions

This section contains a list of questions concerning the Modem, and answers to the questions.

General

I have run out of Ethernet ports on my Modem. How do I add more computers?

Plugging in an Ethernet hub or switch can expand the number of ports on the Modem. Connect a standard Ethernet cable from the "Uplink" port of the new hub or switch to the Ethernet port on the Modem, then connect additional computers to the Ethernet hub or switch.

Which protocols does the Modem support?

The internal LAN connections support multiple protocols (e.g. TCP/IP, NetBEUI, IPX/SPX, and AppleTalk). The External WAN connection supports only TCP/IP.

Which connection speeds does the Modem support?

The LAN connections on the Modem support 10/100 Mbps. The WAN connection supports 8 Mbps because of the physical restrictions placed on broadband connections.

Will my Xbox work with the Modem?

Yes, the Modem is compatible with the Xbox. You will need to set a static IP on the Xbox in the Xbox live network settings, and forward ports 3074 (both UDP and TCP), 53 (both UDP and TCP), and 88 (UDP) if you run into DSL resolution errors.

Is the Modem flash-upgradeable? How do I do it?

Yes, the firmware is upgradeable. You can find a link to the firmware site under "Utilities" in the Web-based configurator (see page 57).

Network

I use my laptop at work and at home. Is there something special I need to do to make it work in both places?

Yes. You must reconfigure your network settings, including Workgroup, Domain, Password, User name, IP addressing, and any other specific settings used by your company. You may also use third-party software like NetSwitcher to automatically switch between different configurations.

What is the valid IP range I can use for my home network?

The valid IP range for the Modem is 192.168.0.2 to 192.168.0.254 by default.

How do I find out which IP address my computer is using?

Windows 95, 98, 98SE, and Me - Select **Start**, **Run**, and type **`winipcfg`**. Press **Enter**. When the "Winipcfg" window appears, ensure your network device is selected.

Windows NT, 2000, and XP - Select **Start**, **Run** and type **`cmd`**. Press **Enter**. When the command screen is displayed, type **`ipconfig`** and press **Enter**.

I used DHCP to configure my network. Do I need to restart my computer to refresh my IP address?

No. Select the appropriate operating system, below, and follow the steps to refresh your IP address.

Windows 95, 98, 98SE, and Me - Go to **Start**, **Run**, type **winipcfg**, and press **Enter**. Ensure the Ethernet adapter is selected in the device box. Press the **Release_all** button, then press the **Renew_all** button.

Windows NT 4.0 and 2000 - Go to **Start**, **Run**, type **cmd**, and press **Enter**. At the DOS prompt type **ipconfig /release**, then type **ipconfig /renew**. (Note the space after **ipconfig**.)

Windows XP - Unplug the Ethernet cable or wireless card and plug it back in.

Can I run an application located on another computer over the network?

Yes, if the application is designed to run over a network.

Can I play games between computers on my network, or on the Internet?

Yes, if the games were designed for multi-player or LAN play. For specific information about whether a game is capable of Internet or LAN play, refer to the game documentation. Some games require ports to be forwarded to host or join games over the Internet.

I have an FTP or Web server on my network. How can I make it available to users on the Internet?

For a Web server, enable port forwarding for port 8080 to the IP address of the server and set up the Web server to receive on that port, as well. (Configuring the server for static IP address use is recommended.) For an FTP server, enable port forwarding for port 21 to the IP address of the server. (Configuring the server for static IP address use is recommended.)

Connections

How many computers can be connected through the Modem?

The Modem is capable of 253 connections, but having no more than 45 connections is recommended. As the number of connections increases, the available speed for each computer decreases.

Security

What is the default username for the Modem?

The default username for the router is **admin** (all lower case). To activate the password to protect the Modem, change the default password, which is blank (no password) by default. Remote management is not available on the Modem until the default password is changed.

Does the Modem function as a firewall?

Yes. The Modem provides its security through the use of a NAT and SPI (Stateful Packet Inspection) firewall, which acts as a physical barrier between your network and the Internet.

What is NAT and how does it protect my network?

NAT (Network Address Translation) is a type of security that masks the private IP addresses of the computers on your network with a single public IP address. With NAT, the private IP address of the computers on your network is never transmitted over the Internet.

Which Virtual Private Networking (VPN) protocols are supported?

The Modem supports pass-through for PPTP, L2TP, and IPSec.

Can I use Internet firewall or security programs with my network?

Because the Modem has firewall security, it is not necessary to use any other program for security. The use of third-party firewall or Internet security software is not recommended, since certain programs create problems on a private network (BlackIce Defender, Norton Internet Security, or ZoneAlarm, for example).

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Reference

This appendix contains information about various topics, including accessing information about your Windows computer.

Locating Computer Information

The following procedure is valid for computers running Windows 98 SE, Me, NT 4.0, 2000, and XP.

1. From the desktop, right-click on **My Computer**.
2. Select **Properties** from the menu that appears.
3. When the "System Properties" window appears, select **General**. The version of the operating system, processor type, and amount of RAM installed in the computer are listed here.
4. Close the System Properties window.
5. From the desktop, double-click on **My Computer**.
6. Right-click the icon representing your hard disk. For example: Local Disk (C:). Some computers have multiple hard disks.
7. From the menu that appears, select **Properties**.
8. When the window appears, select **General**.
9. The free space value is the available space on the hard disk.
10. Close all windows.

Locating Windows Operating System Files

If the operating system files reside on the hard drive of the computer, follow the instructions below to locate them. If the files are not on the hard drive, they must be loaded from the installation disks.

Windows 98 SE

1. From the desktop, click **Start**.
2. When the menu appears, select **Find,** then **Files or Folders**.
3. When the "Find: All Files" window appears, select **Name & Location**.
4. In the "Named" text box, enter:
   ```
   *.cab
   ```
5. Click the **down arrow** next to the "Look In" text box and select **My Computer** from the list that appears.
6. Click **Find Now**.
7. When the search is complete, note the directory path that appears most often in the "In Folder" column. For example: C:\WINDOWS \SYSTEM.
8. The Windows operating system files are located in this directory. Write down the directory path for future reference.
9. Close the Find: All Files window.

Windows Me, 2000

1. From the desktop, click **Start**.
2. Select **Search**, then **For Files and Folders**.
3. **Windows Me:** The "Search Results" window appears. In the "Search for files or folders named" text box, enter:
   ```
   *.cab
   ```
   Windows 2000: The "Search Results" window appears. In the "Search for files or folders named" text box, enter:
   ```
   i386
   ```

4. Click the **down arrow** next to the "Look in" text box and select **My Computer** from the list that appears.

5. Click **Search Now**.

6. **Windows Me:** When the search is complete, note the directory path that appears most often in the "In Folder" column. For example: C:\WINDOWS \OPTIONS\INSTALL.

   Windows 2000: When the search is complete, note the directory path that appears most often in the "In Folder" column. For example: C:\WINNT \Driver Cache.

7. The Windows operating system files are located in this directory. Write down the directory path for future reference.

8. Close the Search Results window.

Windows NT 4.0

1. From the desktop, click **Start**.

2. When the menu appears, select **Find,** then **Files or Folders**.

3. When the "Find: All Files" window appears, select **Name & Location**.

4. In the "Named" text box, enter:

   ```
   i386
   ```

5. Click the **down arrow** next to the "Look In" text box and select **My Computer** from the list that appears.

6. Click **Find Now**.

7. When the search is complete, note the directory path that appears most often in the "In Folder" column. For example: C:\.

8. The Windows operating system files are located in this directory. Write down the directory path (followed by "i386") for future reference.

9. Close the Find: All Files window.

Windows XP

1. From the desktop, click **Start**.
2. Select **Search**, then **For Files and Folders**.
3. The "Search Results" window appears. In the panel at left titled "What do you want to search for?", click **All files and folders**.
4. Another panel, titled "Search by any or all of the criteria below" appears. In the "Look in" text box, click the **down arrow** and select **My Computer** from the menu that appears.
5. In the "All or part of the file name" text box, enter:
   ```
   i386
   ```
6. Click **Search**.
7. When the search is complete, note the directory path that appears most often in the "In Folder" column. For example: C:\WINDOWS \Driver Cache\.
8. The Windows operating system files are located in this directory. Write down the directory path (followed by "\i386") for future reference.
9. Close the Search Results window.

Setting Up Static IP on the Computer

b

To communicate with the Modem from a computer on the network (to use the Web Configuration Utility, for example), the user may have to switch the IP address settings from DHCP-enabled to static IP, so that the computer and the Modem are on the same network subnet.

To set up static IP on a computer, select the operating system and follow the instructions.

☞ ***Note***: The following procedures are based on the Modem's factory default IP address. If the Modem's IP address has been changed, enter the new IP address when instructed to enter an IP address.

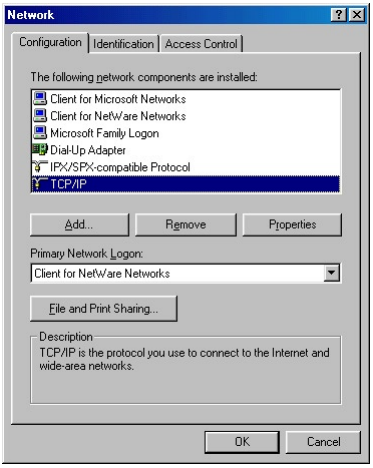
Windows 98 SE

1. From the desktop, click on the **Start** button in the lower left corner.
2. From the menu that appears, select **Settings**.

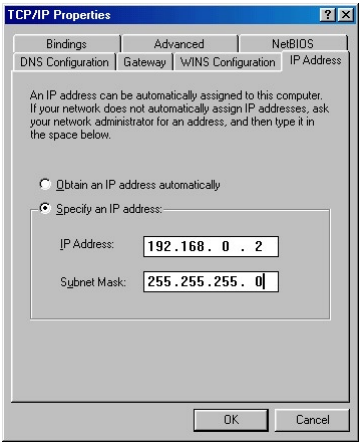
3. Another menu appears. Select **Control Panel**.

4. When the "Control Panel" window appears, double-click **Network**.

5. The "Network" window appears. In the "The following network components are installed" list box, locate and double-click **TCP/IP**.



6. The "TCP/IP Properties" window appears. Select **IP Address**.



7. In the IP Address tab, make sure the circle next to "Specify an IP Address" is selected. When active, a black dot appears in the circle. If the circle already contains a black dot, leave it alone.

8. Enter the following address in the "IP Address" text box:

`192.168.0.2`

Enter the periods in the address by pressing the space bar on the keyboard.

9. Enter the following address in the "Subnet mask" text box:

   `255.255.255.0`

   Enter the periods in the address by pressing the space bar on the keyboard.

10. Click **OK**. The TCP/IP Properties window disappears.

11. In the Network window, click **OK**. The Network window disappears.

12. The "System Settings Change" window appears, asking whether the computer should be restarted. Click **Yes**.

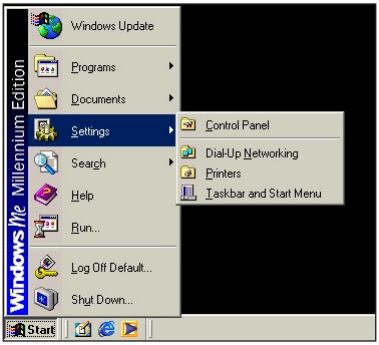
The computer restarts. It is now set up with a static IP address, allowing access to the Modem's Web Configurator utility (as shown in chapters 3, 4, 5, and 6).

Windows Me

1. From the desktop, click on the **Start** button in the lower left corner.

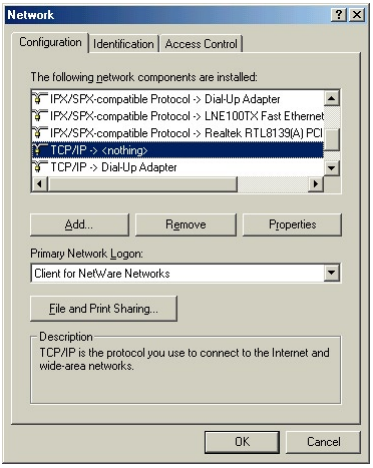
2. From the menu that appears, select **Settings**.

3. Another menu appears. Select **Control Panel**.

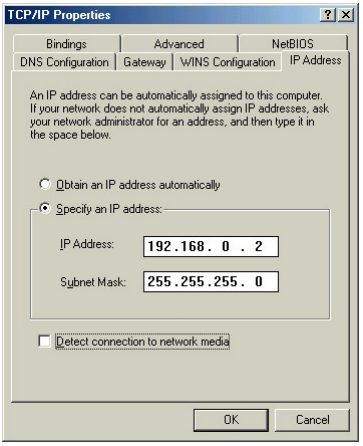


4. When the "Control Panel" window appears, double-click **Network**.

5. The "Network" window appears. In the "The following network components are installed" list box, locate and double-click **TCP/IP**.



6. The "TCP/IP Properties" window appears. Click **IP Address**.



7. In the IP Address tab, make sure the circle next to "Specify an IP Address" is selected. When active, a black dot appears in the circle. If the circle already contains a black dot, leave it alone.

8. Enter the following address in the "IP Address" text box:

`192.168.0.2`

Enter the periods in the address by pressing the space bar on the keyboard.

9. Enter the following address in the "Subnet mask" text box:

`255.255.255.0`

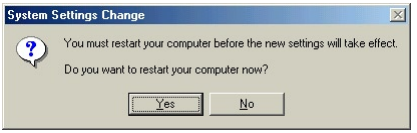
Enter the periods in the address by pressing the space bar on the keyboard.

10. Click **OK**. The TCP/IP Properties window disappears.

11. If there is a check in the box next to "Detect connection to network media," click on it to uncheck the box.

12. In the Network window, click **OK**. The Network window disappears.

13. The "System Settings Change" window appears, asking whether the computer should be restarted. Click **Yes**.



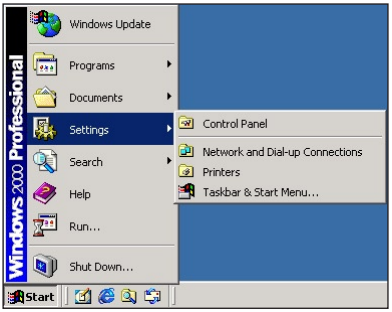
The computer restarts. It is now set up with a static IP address, allowing access to the Modem's Web Configurator utility (as shown in chapters 3, 4, 5, and 6).

Windows 2000

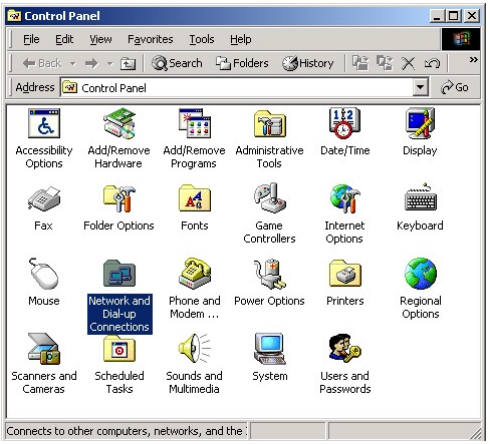
1. From the desktop, click on the **Start** button in the lower left corner.

2. From the menu that appears, select **Settings**.

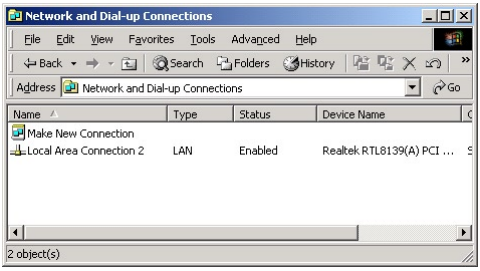
3. Another menu appears. Select **Control Panel**.



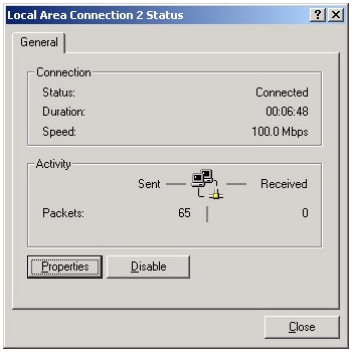
4. When the "Control Panel" window appears, double-click **Network and Dial-up Connections**.



5. In the "Network and Dial-up Connections" window, double-click **Local Area Connection**. A number may be displayed after the Local Area Connection. If more than one Local Area Connection is listed, locate the one that corresponds to the network card installed in the computer by finding the name of the network card in the **Device Name** column.

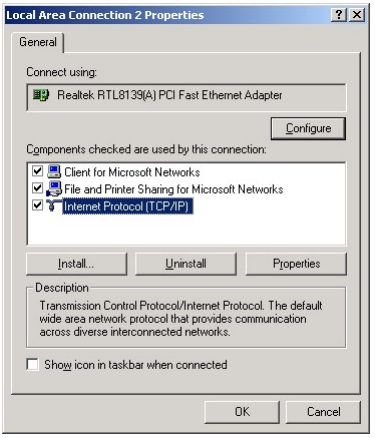


6. The "Local Area Connection Status" window appears. Select **General**, then click **Properties**.

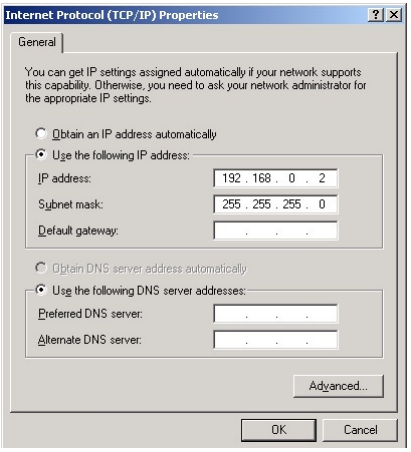


7. The "Local Area Connection Properties" window appears. Click **General**.

8. In the "Components checked are used by this connection" list box, double-click **Internet Protocol (TCP/IP)**.



9. The "Internet Protocol (TCP/IP) Properties" window appears.



10. In the **General** tab, make sure the circle next to "Use the following IP Address " is selected. When active, a black dot appears in the circle. If the circle already contains a black dot, leave it alone.

11. Enter the following address in the "IP Address" text box:

`192.168.0.2`

Enter the periods in the address by pressing the space bar on the keyboard.

12. Enter the following address in the "Subnet mask" text box:

`255.255.255.0`

Enter the periods in the address by pressing the space bar on the keyboard.

13. Click **OK**. The "Internet Protocol (TCP/IP) Properties" window disappears.

14 In the "Local Area Connection Properties" window, click **OK**. The Local Area Connection Properties window disappears.

15. Click **Close** in the Local Area Connection Status window. The window disappears.

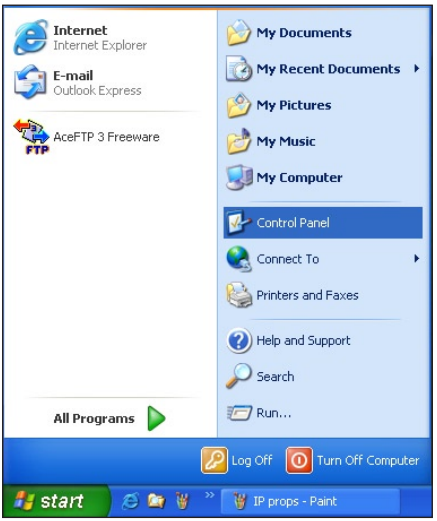
16. Close the Network and Dial-up Connections window by clicking on the "**x**" button at the upper right corner of the window.

The computer restarts. It is now set up with a static IP address, allowing access to the Modem's Web Configurator utility (as shown in chapters 3, 4, 5, and 6).

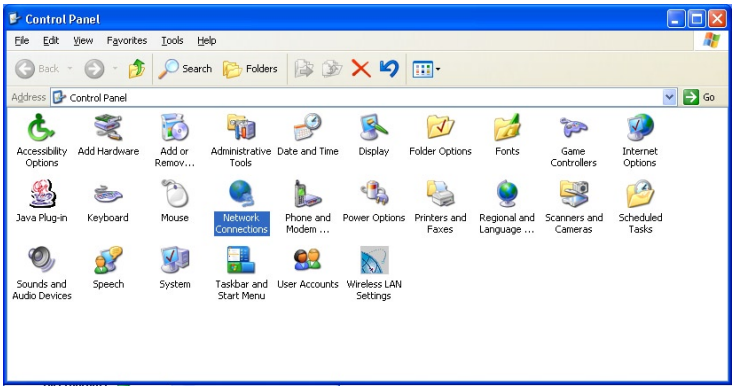
Windows XP

1. From the desktop, click **Start** button in the lower left corner.

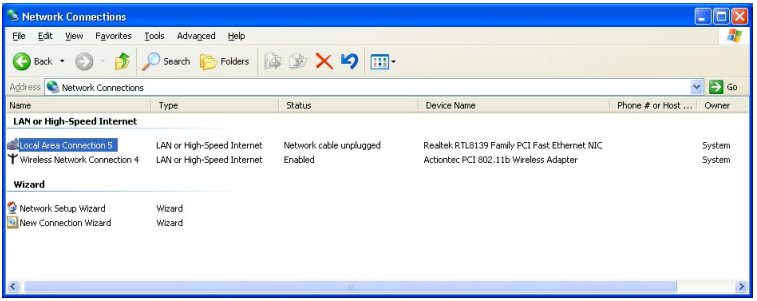
2. From the menu that appears, select **Control Panel**.



3. When the "Control Panel" window appears, double-click **Network Connections**.

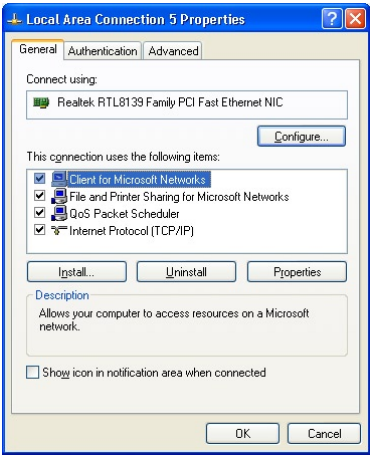


4. In the "Network Connections" window, double-click **Local Area Connection**. A number may be displayed after the Local Area Connection. If more than one Local Area Connection is listed, locate the one that corresponds to the network card installed in your computer by finding the name of the network card in the "Device Name" column.

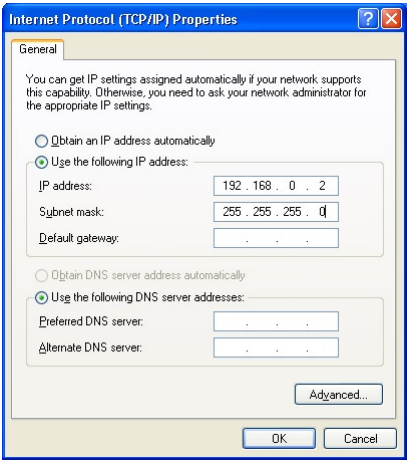


5. The "Local Area Connection Properties" window appears. Select **General**.

6. In the "This connection uses the following items" list box, double-click **Internet Protocol** (TCP/IP).



7. The "Internet Protocol (TCP/IP) Properties" window appears.



8. In the **General** tab, make sure the circle next to "Use the following IP Address" is selected. When active, a black dot appears in the circle. If the circle already contains a black dot, leave it alone.

9. Enter the following address in the "IP Address" text box:
   `192.168.0.2`
   Enter the periods in the address by pressing the space bar on the keyboard.

10. Enter the following address in the "Subnet mask" text box:
    `255.255.255.0`
    Enter the periods in the address by pressing the space bar on the keyboard.

11. Click **OK**. The Internet Protocol (TCP/IP) Properties window disappears.

12 In the Local Area Connection Properties window, click **Close**. The Local Area Connection Properties window disappears.

13. Click **Close** in the Local Area Connection Status window. The window disappears.

14. Close the Network and Dial-up Connections window by clicking on the "**x**" button at the upper right corner of the window.

The computer restarts. It is now set up with a static IP address, allowing access to the Modem's Web Configurator utility (as shown in chapters 3, 4, 5, and 6).

Computer Security

The Internet is a giant network of computers located all over the world. When a computer is connected to the Internet, it can exchange information with any other computer on the Internet. This allows a computer user to send E-mail, surf the World Wide Web, download files, and buy products and services online, but it also makes the computer vulnerable to attack from persons intent on doing harm. Unless access to the computer is controlled, someone on the Internet can access the information on the computer and steal, damage, or destroy that information.

*Action*tec recommends securing your computer from unwanted intrusion. Security is ultimately the end user's responsibility. Please secure your computer, and don't be a victim.

Comparing DSL Service with a Dial-Up Modem

With a dial-up modem, a computer user makes an Internet connection by dialing a telephone number, surfs the Internet for a period of time, and then disconnects the dial-up modem. No one on the Internet can access a computer not connected to the Internet.

Unlike a dial-up modem, DSL service is "always connected." The connection is always available – there is no need to dial a phone number to access the Internet. The computer can be connected to the Internet all the time.

With both types of Internet connections, access to the computer must be controlled to make sure someone on the Internet doesn't access the information on the computer. The longer the computer is connected to the Internet, the easier it is for someone on the Internet to find the computer and attempt to access it without permission. DSL service also provides fast Internet connections. This not only improves Internet performance, it also improves Internet performance for anyone attempting to access the computer.

Modem Security

Be sure to provide the Modem an administrative password. If a password is not set, someone on the Internet can access the Modem and change its configuration. For instructions on setting the password, see the "Advanced Setup" chapter.

Computer Security

To protect the valuable information on the computer, review the following topics. These topics cover software programs and operating system features affecting the security of the computer's data.

Anti-Virus Programs

The computer should have an anti-virus program, and the virus definitions should be updated on a regular basis – at least once a month.

E-Mail Attachments

Never run a program received as an attachment to an E-mail message unless the program is known to be safe. A program from an unknown source can delete all the files on the computer's hard disk or install a "back door" software application that lets people on the Internet gain access to the computer without permission.

Internet Browsers

Always exit the Internet browser (Internet Explorer or Netscape Navigator, for example). Never "minimize" the browser or leave it open in the background. Breaking into a computer is easier when an Internet browser is running.

Network Applications

Network applications (such as software programs) that allow remote access to the computer also make the computer vulnerable to access from other people on the Internet. If using a network application that allows remote access, consider installing a firewall.

Electronic Security

Here are two methods to secure your computer electronically.

Network Address Translation

If a local area network and a PPP connection to the ISP using dynamic IP addresses through a DHCP server are being used, Network Address Translation (NAT) is being used. NAT provides a very basic level of security.

Firewalls

The safest way to prevent attacks on the computer is through a firewall – a hardware device or software program that protects the computer from unauthorized access by controlling who can access your computer and by monitoring the transmissions between the computer and the Internet

Windows XP has a built-in firewall. For more information, select **Help and Support Center** from the Help menu. Search for **Internet Connection Firewall**.

If Windows 98 SE, Me, NT 4.0, or 2000 is running on the computer, consider installing a firewall. Hardware and software firewall products are changing rapidly as more homes and businesses establish high-speed digital connections between their local area networks and the Internet.

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Specifications

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General

Model Number

GT701 (USB/Ethernet DSL Modem)

Standards

IEEE 802.3 (10BaseT)
IEEE 802.3u (100BaseTX)
G.dmt
G.lite
t1.413
RFC 1483, 2364, 2516

Protocol

LAN - CSMA/CD
WAN - PPP, DHCP, Static IP

WAN

Full-rate ADSL Interface

LAN

10/100 RJ-45 switched port
USB port

Speed

LAN Ethernet: 10/100 Mbps auto-sensing

Cabling Type

Ethernet 10BaseT: UTP/STP Category 3 or 5
Ethernet100BaseTX: UTP/STP Category 5
USB

LED Indicators

Power, DSL, Internet, Ethernet, USB

Environmental

Power

External, 12V DC, 600mA

Certifications

FCC Class B, FCC Class C (part 15, 68), CE Mark Commercial, UL

Operating Temperature

0º C to 40º C (32º F to 104º F)

Storage Temperature

-20º C to 70º C (-4º F to 158º F)

Operating Humidity

10% to 85% (non-condensing)

Storage Humidity

5% to 90% (non-condensing)

Note: Specifications are subject to change without notice.

Glossary

Access Point

A device that allows wireless clients to connect to one another. An access point can also act as a bridge between wireless clients and a "wired" network, such as an Ethernet network. Wireless clients can be moved anywhere within the coverage area of the access point and remain connected to the network. If connected to an Ethernet network, the access point monitors Ethernet traffic and forwards appropriate Ethernet messages to the wireless network, while also monitoring wireless traffic and forwarding wireless client messages to the Ethernet network.

ATM (Asynchronous Transfer Mode)

A networking technology based on transferring data in fixed-size cells.

Client

A desktop or mobile computer connected to a network.

DHCP (Dynamic Host Configuration Protocol)

A protocol designed to automatically assign an IP address to every computer on the network.

DNS (Domain Name System) Server Address

Allows Internet host computers to have a domain name and one or more IP addresses. A DNS server keeps a database of host computers and their respective domain names and IP addresses so that when a user enters a domain name into a Web browser, the user is sent to the proper IP address. The DNS server address used by computers on the home network corresponds to the location of the DNS server the ISP has assigned.

DSL (Digital Subscriber Line) Modem

A modem that uses existing phone lines to transmit data at high speeds.

Encryption

A method to provide wireless data transmissions a level of security.

ESSID (Extended Service Set Identifier)

A unique identifier for a wireless network. Also known as "SSID."

Ethernet Network

A standard wired networking configuration using cables and hubs.

Firewall

A method preventing users outside the network from accessing and/or damaging files or computers on the network.

Gateway

A central device that manages the data traffic of the network, as well as data traffic to and from the Internet.

IP (Internet Protocol) Address

A series of four numbers separated by periods identifying a unique Internet computer host.

ISP Gateway Address

An IP address for the Internet router. This address is only required when using a cable or DSL modem.

ISP (Internet Service Provider)

A business that allows individuals or businesses to connect to the Internet.

LAN (Local Area Network)

A group of computers and devices connected together in a relatively small area (such as a house or an office). A home network is considered a LAN.

MAC (Media Access Control) Address

The unique hardware address of a device connected to a network.

NAT (Network Address Translation)

A method allowing all of the computers on a home network to use one IP address, enabling access to the Internet from any computer on the home network without having to purchase more IP addresses from the ISP.

PC Card

An adapter that inserts in the PCMCIA slot of a computer, enabling the communication with a device.

PPPoE (Point-To-Point Protocol over Ethernet)/ PPPoA (Point-To-Point Protocol over ATM)

Methods of secure data transmission.

Router

A central device that manages the data traffic of the network.

Subnet Mask

A set of four numbers configured like an IP address used to create IP address numbers used only within a particular network.

SSID

See "ESSID."

TCP/IP (Transmission Control Protocol/Internet Protocol)

The standard protocol for data transmission over the Internet.

WAN (Wide Area Network)

A network that connects computers located in separate areas, (i.e., different buildings, cities, countries). The Internet is a WAN.

WiFi (Wireless Fidelity Alliance)

An industry group that certifies cross-vender interoperability and compatibility of IEEE 802.11b/g wireless networking products and promotes the standard for enterprise, small business, and home environments.

WLAN (Wireless Local Area Network)

A group of computers and other devices connected wirelessly in a small area.

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Non-Windows System Setup

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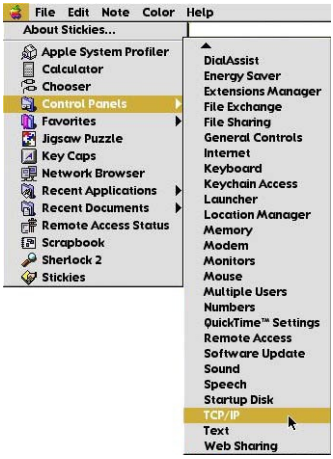
The Modem supports both the Classic Macintosh operating systems (9.2.2), as well as OS X.

Note: When installing any software, consult the user manual and help files supplied with the software for detailed information. Actiontec provides the following information as a guideline only.

Classic

To configure the Modem, Open Transport 2.5.2 or above must be loaded on the computer.

1. Click **Apple, Control Panels**, then **TCP/IP**.



2. When the "TCP/IP" window appears, select **Edit** from menu bar, then select **User Mode**.

3. When the "User Mode" window appears, select **Advanced**, then click **OK**.

4. In the "TCP/IP" window, select **Ethernet** from the "Connect via" drop-down list.

5. Select **Using DHCP Server** from the "Configure" drop-down list.

6. Ensure the "Use 802.3" option is **not** checked.

7. Disregard any addresses in the IP Address text boxes. They will be reacquired when the first connection is made.

8. Click **Options** and when the "TCP/IP Options" window appears, select **Active**. Ensure the "Load only when needed" option is **not** checked, then click **OK**.

9. Close the "TCP/IP" window and when prompted to save changes, click **Save**.

10. Restart the computer. The TCP/IP settings are configured.

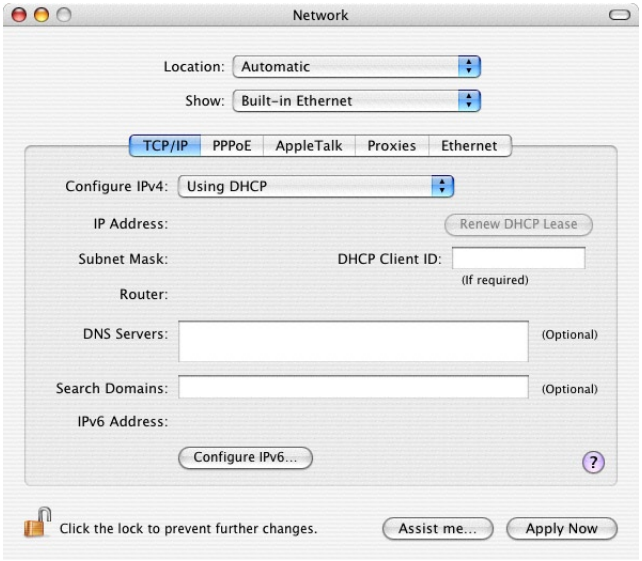
To finish setting up the computer to connect with the Modem, follow the instructions in chapter 3, "Performing a Basic Setup," on page 33.

OS X

1. From the Apple Menu, select **System Preferences**.

2. When the "System Preferences" window appears, click **Network**.

3. The Network window appears. Select **Built-In Ethernet** from the "Show" drop-down list.



4. Select **TCP/IP** and, from the "Configure" drop-down list, select **Using DHCP**.

5. Click **Apply Now** and close the "System Preferences" application. The TCP/IP settings are configured.

To finish setting up the computer to connect with the Modem, follow the instructions in chapter 3, "Performing a Basic Setup," on page 33.

Notices

Regulatory Compliance Notices

Class B Equipment

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by implementing one or more of the following measures:

- Reorient or relocate the receiving antenna;
- Increase the separation between the equipment and receiver;
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected;
- Consult the dealer or an experienced radio or television technician for help.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Actiontec Electronics, Inc., may void the user's authority to operate the equipment.

Declaration of conformity for products marked with the FCC logo – United States only.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference;

2. This device must accept any interference received, including interference that may cause unwanted operation.

☞ ***Note***: To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

For questions regarding your product or the FCC declaration, contact:

Actiontec Electronics, Inc.
760 North Mary Ave.
Sunnyvale, CA 94086
United States
Tel: (408) 752-7700
Fax: (408) 541-9005

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Return the product to:
(In the United States)
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Sunnyvale, CA 94086

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